

J. L. C.

AN
ESSAY

Attempting a more
Certain and Satisfactory
DISCOVERY
Both of the
TRUE CAUSES of all
DISEASES,

Proceeding from *VICIOUS BLOODS*,
AND THE
Genuine Operations of all REMEDIES
Used *Internally* in their CURES:

To which by way of Introduction are Premised some
Free Thoughts, why the *Practice* of *Physick* is hi-
therto arriv'd at no greater a *Degree* of *Certainty*.

By BARTH. BEALE. M.B. K

L O N D O N:

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10

MVSEVM
BRITAN
NICVM

~~The Dedication.~~
~~such Fidelity, such Secrecy and such~~
~~affection in the Management of it.~~
~~All that I have humbly to offer by~~
~~way of Apology, may I trust, will~~
~~be that I am very far from the Sole End~~
TO THE
RIGHT HONOURABLE
Robert Harley, Esq;

One of Her Majesty's Principal Secretaries of State,
and one of Her Most Honourable Privy Council.

SIR,

I Cannot but readily acknowledge,
that it may seem an inexcusable
piece of Arrogance, for one so
Obscure in all respects, to presume in
this manner to Address himself to a
Person, by Her Most Sacred Majesty,
the Best Judge of True Merit, advanced
to a Station in the Publick, which
requires such Judgment, such Dexterity,

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The Dedication.

ty, such Fidelity, such Secrecy and such
Dispatch in the Management of it.

All that I have humbly to offer by way of Apology for this my Temerity, is, That I am very sure, the Sole End I aim at, in the following Essay, of the which I beg your Protection, is the Good of Mankind, and the Means I propose for the attaining that End, if I am not grossly Mistaken, actually tend to render the Art of Physick more indisputably useful, than some prejudiced Minds are willing to own, by Suggesting a Method for the effectually Freeing it, as far as shall be possible, from the too common Imputation of Uncertainty, either in the Theory or Practice, or Both; at least so far, as relates to Diseases proceeding from Morbid Bloods.

This Design being Commendable, I hope the Supplicating Your Favour towards it, may Plead for the Pardon of my Presumption, in thus Dedicating

The Dedication.

ting it to You ; though the Deficiencies, in the Performance of the Undertaking it self, should render it Unworthy of Your Patronage.

That God would long continue You an Happy Instrument of Promoting Her Majesty's Glory, and the Good both of these Kingdoms in particular, and of all Europe in general, is the most unfeigned Prayer of,

S I R,

Your HONOUR'S,

Most Humble, and

most Obedient Servant,

Barth. Beale.

The Dedication.

ting it to you: though the Dedication
cies, in the Performance of the Under-
taking it self, should render it Unwar-

thy of your Patience.

I am God most long continuing Her
an Happy Instrument of Promoting Her

Majesty's Glory, and the Good of His
these Kingdoms in particular, and of

all that are in general, is the most sig-
nificant, and the most honorable, and the

most agreeable, and the most profitable,
move me to engage in this Undertaking, which per-

haps may be of some service to the
the Republic, and the Liberty of the

country, and Opprobrium, and
and Opprobrium, and

my Honour, and
live, than in any other manner.

Before I proceed, I must to you, and to the
ness, I crave the most Obedient Service

the Liberty to state, and to defend, and to
documents, which I have, and which I

laid others, to the Honour of the
therein interesting me, to the Honour of the

I do not leave any thing to your
I mean, I do not intend, with this Dedication

Sincerely, Your most Obedient
and most Faithful Servant,

Barth. Beale.

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THE
PREFACE.

THE *Title Page* sufficiently declaring the *Design* of the following *Essay* might very well excuse me the trouble of prefixing a *Preface*; were there not two particulars in which both the Learned and Unlearned Readers may reasonably expect some kind of Satisfaction from me, *viz.* I. What mov'd me to engage in an Undertaking, which perhaps may be so far from meeting with a favourable Reception, that in all likelihood, it may on the contrary be Ridicul'd and Despised by many, and Opposed, and Contradicted by others: And II. Why, after I had resolv'd to commit to the Press my Sentiments, I rather chose to do it in my Native, than in the Latin Tongue?

Before I proceed directly to answer the former Queries, I crave the Candid Reader's Patience; while I take the Liberty to assure him, That many of those Inducements, which may have had Force enough to persuade others, to become Authors had not the least share in Influencing me, to take Pen in hand. But that I may not leave him at a loss, to guess what Inducement I mean: I do here protest with all the Solemnity and Sincerity possible, That it was no Spirit of Contradiction, No Intention of Maliciously Reflecting upon any,

The P R E F A C E.

No *Itch* of *Writing* (for which I know, too well, my self not fitly qualified) No *Design* of *raising* to my self a *Name* and *Reputation*, that prevailed with me at first to entertain thoughts, of quitting that undisturbed *Privacy*, which is but too agreeable with my *Natural Temper*, thus to appear in *Publick*.

Having thus endeavoured briefly to prevent the Suspicion of any Bye-end, in this my following Attempt, I shall proceed to give the utmost Satisfaction I can, as to the *Real Motives* both *Occasional* and *Final*, (if I may be permitted to use those Epithets) which did actually induce me, to break through my inbred *Reluctancy* against exposing my self to the Censure of the World, and especially in an *Affair*, for the intermeddling with which, I may, 'tis to be feared, expect more *Reproaches* than *Thanks*.

As for the *Occasional Motif*, I must freely own, That it was the general *Unsatisfactoriness* (to me at least) of most of those *Experiments*, I have yet met with, made use of for discovering the *Immediate Operations* of *Medicines*, upon the *Blood*, and other *Fluids*, in *Humane Bodies*. But more particularly of that Remarkable one of the truly Ingenuous *Mr. Freind*, exhibiting the Success of Injecting two Ounces of a strong Decoction of the *Peruvian Bark*, into the Jugular of a Dog. However having treated at length of these things, in the Essay it self, I shall say no more of them at present, than, That they put me upon endeavouring to excogitate a more proper Method, for fully satisfying our but necessary *Curiosity*, in this particular, viz. the *Modus Operandi* upon *Humane Blood* of Remedies internally administred, the Result of these first Thoughts

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The PREFACE.

was the *Method* by me hereafter proposed; which if Partiality to my own Sentiments, do not lead me into Notorious Error, is not liable to those Grand Objections of *Impropriety of Subjects*, and *unfair ways of making Experiments* the other Methods, generally used, are so apparently Obnoxious to.

This I must acknowledge was the utmost Extent of my first Design: But when I came to review my first rough Draught, I began further to consider, That those *Alterations*, which were wrought by *Medicines*, in Morbid Humane Bloods, whether for the better or the worse, must be the Effects of some Real (I had almost said sensible) and not Imaginary Operations, of the said *Medicines* in *Altering* the *Texture* of that most Noble *Fluid*. That is where after the Exhibition of any Remedies, any kinds of Distempers were sensibly abated, those Effects must of necessity be produced, either by Correcting, or discharging those Vices in the Blood, which were the Original Causes of those Indispositions under Cure: And on the Contrary where, in like Distempers, after the Exhibition of other Remedies, the said *Indispositions* were sensibly heightened, those Exacerbations must likewise, necessarily at least for the most part, proceed either from the Remedies Increasing the Degrees of those Morbid Dyscrasies, already Predominant in the Blood, or else from their superinducing new Vices into it. And if those Effects, for either good or bad, do constantly succeed the use of those different Medicines, in like Cases, the truth of this way of arguing must of Consequence be the more undeniable. The like may with equal force be affirmed of different *Methods* and *Processes*, as well as of single Remedies. These Considerations seriously

The PREFACE.

and duly weighed, naturally and silently led me into an Apprehension, That a Nice and Dextrous Management of this Method, might prove of great Use, towards the Ascertaining, past either doubt or dispute, the true Causes of Distempers; at least of those which proceed from *Vicious Bloods*. Which Knowledge of the Causes, by pointing to the most proper Methods and Remedies for the Speedy and effectual removing the said Causes, would directly, as it were, and without any *Maanders*, lead us to the most safe, as well as most Efficacious and Expeditionous Cures, of the Distempers themselves. But of this I have spoken more at large in the *Essay* it self, among the *Advantages*, that may be justly expected from a Strict and vigorous Prosecution, of this or some such like Method, and therefore shall dwell no longer upon it in this Place.

And what was yet something of a further *Inducement* to me, thus to endeavour, to incite the *Ingenious* to prosecute their Enquiries, into the *Natures* of *Diseases*, and the *Operations* of *Medicines*, in this or some better *Method*, was an Apprehension long since imbibed by me (whether true or false, Time and further Experience, must, or at least may shew) That in forming our Notions of *Diseases*; and in Regulating our Practice in the Cure of them; we have hitherto indulged too much to *Conjectures*, which have had no solid Foundation, being for the most part built upon pure Fancy; while at the same time under the specious pretence of following the Dictates of right Reason, by Philosophizing, we have generally too much, not to say wholly, neglected the *Assistances* we might have received, if we would, from

The PREFACE.

our *Truſty Senſes*, even to have reaſoned more truly, or at leaſt to have avoided ſome, it may be fatal Errors.

Thus I have given a brief, but true, Account of the *Occaſional Motives*, which prevailed with me to ſet about the framing the enſuing *Method*: together with the Steps I proceeded in.

And now as to the *Final Motif*, I can ſincerely profeſs, That I have no other Aim in the publiſhing the ſubſequent *Eſſay*, than an earneſt Deſire, and an unfeigned Deſign, to be ſerviceable, as much as in me lies, to the *Common Good of Mankind*. This, viz. the *doing Good* to the *Publick*, every individual Man ought (and every Honelt and Conſcientious Man will) primarily in all his Deſigns, ſincerely to aim at, and in all his Actions ſtrenuouſly to endeavour after. This in reality he ought to prefer, before his own private Reputation, nay, and Advantages too, if the Proſecution of his own particular Affairs, and the Weal-publick, are inconfiſtent to, or do unfortunately interfere with each other: From this Indifpenſible Obligation no Perſon, of what Degree, Quality, or Circumſtances ſoever, can juſtly pretend an Exemption.

This very Conſideration, and this only, has emboldened me, as inconfiderable as I am, to caſt my poor Mite into the Publick Treasury. More would I gladly Offer, were I poſſeſt of greater Riches: And therefore I hope that this will not be unkindly received, ſince, I am ſure, 'tis honeſtly deſigned. At leaſt I flatter my ſelf, That my ſincere Intentions, of promoting the *Publick Good*, may effectually plead for a favourable Entertainment of what I have written, among the candidly Ingenious; although my
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The P R E F A C E.

endeavours should not in strict Justice deserve Commendation and Approbation.

I know it will look too like Vanity (and yet I can scarce forbear it) to fancy, that the following *Method*, if strictly persisted in, may, in process of time, be of some Service to the Professors, and Practisers of Physick; in affording them, as I have already hinted, clear, and therefore more satisfactory Ideas of the *Natures of Diseases*, especially of those which owe their Origins to *Vicious Bloods*: and in furnishing them with more certain, and perhaps more *Expeditious* ways of Curing the said Diseases, than any other System of Medicine yet received: and all this by ascertaining, at once both to our Reason and Senses, their distinct and proper Provinces, and thereby not only keeping them from incroaching upon each others Jurisdictions, but also by rendering them truly serviceable and assistant to each other. And if this shall be the Success of my Endeavours, as I flatter my self it may, I should think my self guilty of an unpardonable Crime, should I be induced, by the Apprehension of any Inconvenience or Disrepute, likely to accrue to my self, by Communicating my thoughts, to conceal from the World what may tend to the General Advantage. However, should the meanness of my subsequent Performance, render my Expectations as to the particulars just mentioned, abortive, yet if they shall prove so happy, as to incite others, that are better qualified for such an undertaking, to think freely, and thereby give them an Opportunity, of proposing a more unexceptionable *Method*, of making our Senses assistants, not to say Directors, to our Reason, in the Investigating both the *True Causes of Diseases*, and the

The PREFACE.

the Genuine Operations of Remedies, in the Cure of them: Should this I say be the sole Effect, of all the pains I have herein taken, I should no ways think my time mispent, though withal this Essay of mine should be condemned to the vilest uses; and the Author of it doom'd to continue in as silent, and unenvied an Obscurity, for the Remainder of his days, as he has hitherto been buried in. Nay, so far shall I be from repining at such an Usage, which others might perhaps esteem a Misfortune, should I have the Happiness to see it attended by, so desirable a Consequent, that none should more heartily rejoyce, at the more fortunate Endeavours of any other, for the attaining so Noble, Beneficial and Desireable an End; and none should more sincerely Congratulate the Success of them: So far am I from courting Popular Applause, and from making my own Reputation the ultimate end of any of my Actions.

As to the second Query, Why, I chose to send these following thoughts into the World, in my Native, rather than in the Latin Tongue. I hope none will be so Ill-natured, nor so Unjust, as to suspect, (which suspicion would be groundless) that it was because I could not have done it in the latter. But if any shall think fit to assign for me, as one Reason; That the ensuing crude Notions did not deserve the Honour of a Roman Dress; for peace and quietness sake, rather than have a quarrel with any Man for so insignificant a Matter, I am content to yield him that point, and to let it pass for one Reason, and that a good one too: as being truly sensible, that the Meanness of my Performance is too visible, to make me desirous of having it seen in a Foreign Country. Though this I must add, That I am not

The P R E F A C E.

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The P R E F A C E.

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The PREFACE.

altogether without hopes, That some Person or other of much greater Abilities, may in time either improve the Notion by me excogitated, and here published to the World, or from it take some hint of Communicating to the Learned, and in the Learned Language too, something of this kind worthy, not only their favourable Acceptance, but also their hearty encouragement. And then it will be sufficient for me, and fully satisfy the utmost of my Ambition to be able to say,

Voluisse sat est.

A Second and better Reason for my doing this in *English*, was a desire and design of imitating thereby the Best and purest Ages of Physick; when it was neither afraid nor ashamed of exposing it self, and its Beauties, to the View of all Beholders. The Ancients and their Successors, for many subsequent Ages, 'tis certain (after *Medicine* was rescued from its *Egyptian* Bondage, under the Tyranny of their Priests; who concealed it, as well as all other parts of Learning, among their Mysteries, to which the Ignorant and prophane Vulgar were denied Access) did not Scruple, the publishing in the Languages of their several Countries, what they thought might deserve the Notice of the most Learned: and were not afraid as we now seem to be, of rendering thereby the common People too knowing, or too Pragmatical. And this Custom of treating of all sorts of Learning, in their Mother Tongue, is revived again in a Neighbouring Nation, Famous for the Encouragement it gives, *aux belles Lettres*, as well as for its Conquests (how justly made the World knows) upon its Borderers. There the *Beaux Esprits*, do not think it a Disparagement to them, in *Lingua Vernacula* to communicate the Noblest of their Thoughts. Nay, so much do they

The PREFACE.

they seem bent upon the Improvement of the intellectual Faculties of their Natives, that there is scarce any Celebrated Piece of Antiquity but what may be found translated, and perhaps Illustrated, in their own Language, by some able hand.

But why should I betake my self to a Foreign Country, for instances of Persons, of undoubted Literature, who have thought it no fault to do the same thing; when, even in this our own Nation, many of the most Ingenious have not disdain'd to handle even the most Abstruse Notions, both in *Medicine* and *Philosophy*, as well as *Divinity* in *English*. This is matter of Fact past denial, and may justly excuse me for treading in their Steps: And the Humor too of Translating, whatsoever is considerable in other Languages into our own, is now so prevalent, that there scarce peeps abroad a piece worth reading, in any other Tongue but immediately it accosts us in our own: though many times (the more the pity) so abominably Copied, that one would almost be tempted to suspect, That the Translation was made with no other design, than to Burlesque and Disgrace the Original, were it not too well known, that most of the Booksellers that are at the Charge of Translating Books imported from abroad, or at least pay for them after they are Translated, value a Translation more, for being cheap than well done. But in this I doubt not, but that the Editors put a gross Cheat upon themselves, as well as an Intolerable affront and injury upon the Original Authors: for were the Pieces, they so publish, well Translated, there is no Question to be made, That the Profit they would make, by the Numbers they would then sell, would more than Compensate the Charges, they were at, at first,

The PREFACE.

in giving such Prices to their Translators, as might encourage Men, fitly qualified for such a Task, willingly to undertake it; and chearfully to go through with it.

The last Reason which I shall assign, for my not writing the following Essay in *Latin*, and which had no small Influence upon me, was the Consideration how needful it would be, in order to get this *Method* into Practice, to remove, out of the minds of them who were to be the Subjects of it, all manner of Prejudice against the permitting it to be exercised upon them: and to work them, as much as may be, into a ready Compliance with our desires. This I hope may be more easily obtain'd, by laying before them in a Language they are absolute Masters of, the Rationality and Usefulness of such a Procedure, together with the Safety of it, and by fully answering the only *Grand Objection*, which can be raised by them, against it, *viz.* The unreasonableness that they should be put to unnecessary Charges for our Satisfaction.

If any shall further demand the Reason, of my premising so many Causes, of the Non-Improvement of *Physick*, especially since some of them appear wholly Foreign to the following Design. I answer that many of them were absolutely necessary, and that it would have look'd very odd, to have proceeded abruptly to the *Method* it self, without informing the Reader, what those Remoras were, which have so long prevented Medicine, from attaining its full Glory, usefulness and certainty; and which rendered some such *Method* as this very desirable. And as to those which seem to have the least Tendency, towards the Recommending the following *Method*, I could not well

The PREFACE.

well pass them over in Silence, when I was engaged in a Design of offering something that might have a Prospect, of considerably advancing the Reputation of that *Noble Faculty*; that thereby I might incite others likewise to lend their helping hands, to finish what I have but imperfectly begun, by suggesting proper means for taking out of the way those other Obstacles. Which that they may effectually do, my sincere Wishes, and Heartly Prayers, shall never be wanting.

It may be perhaps expected, that I should say something, either in Vindication of, or in Excuse for, my style. If any shall find fault with the Uncorrectness of it, and the Length of some, if not most, of my *Periods*, I must, and do, freely own that I never did pretend to be a *Master of Language*, and that my design was to propose something to the World, which, after the most serious Consideration, I thought might tend to the Improvement of the *Art of Curing*, rather than to aim at the Tickling the Fancies of the Readers, by a *Polite* and well contrived *Harangue*. I have endeavoured all along to render my self as Intelligible as might be: If I have actually failed of that, I shall be heartily sorry indeed; but if I have not, I shall rest fully satisfied, and not trouble my self about the garnish, it being the first time that ever I have, upon any occasion whatsoever, ventured to appear in Print, and, if I know my own Mind, shall be the last. However, this may be offered, by way of Excuse, and Extenuation, for the *Unpoliteness* of the following *Essay*, that it was written by Bits and Scraps, without any continued and close Application to it, as I could get time, either from my necessary Attendance upon my Practice, and Studies, or from the almost insuperable

The PREFACE.

ble Aversion I have to the taking a Pen into my hand. In short if any, that are better qualified for such an undertaking (and few there are, I am very sensible, that are worse) shall think the Notion, or Notions, by me suggested, do deserve any Incouragement, I shall heartily thank them, should they either Improve it, or put it into a more pleasing Dress. And as to those, who shall be of a different Opinion, I shall only earnestly desire them to propose better of their own, which whenever they shall think fit, for the Publick Good, to publish, I do faithfully promise them, that partiality for my own private Sentiments shall be totally laid aside, and theirs shall not fail to meet with, from me, the Reception due to their just Merit. And in the mean time I bid both the one sort, and the other, of these Persons heartily Farewel, and hope that in Requital they will at least wish me, and my present Endeavours, according to the Common, though well meant Expression, Good Luck.

ERRATA.

PAG. 52. l. 29. r. seen it. P. 54. l. 28. r. excite such. P. 64. l. 24. after more add a Comma. P. 66. l. 14. r. Vol. 1. P. 68. l. 8. r. roving. P. 77. l. 17. af. little add Reason. P. 82. l. 13. r. Prastant. P. 85. l. 30. after Reason, add be expected. P. 92. l. 19. r. living of Animals. P. 100. l. 13. r. such Experiments. P. 108. l. 23. for 54th. r. 14th. P. 109. l. 30. for more, r. such. P. 110. l. ult. for is so r. is one I freely own. P. 111. l. 9. for we r. they. P. 119. l. 19. dele as, l. 20. for may r. might. P. 133 l. 19. 20. for to other, r. in others. P. 151. l. 24. r. each other. P. 156. l. 27. for 26. r. 62. P. 158. l. 18. r. serviceable, at least not hurtful, P. 162. l. 15. r. sparingly. P. 163. l. 23. r. into. P. 167. l. 14. r. Those. P. 173. l. 18. r. those are. P. 181. l. 5. r. the Serum. P. 204. l. 30. r. evince to. P. 205. l. 28. r. Regular. P. 206. l. 3. for they r. of. P. 209. l. 1. r. bitterer. p. 210. l. 14. f. the r. this. P. 211. l. 19. r. inpromoting. P. 214. l. 22. r. does not. P. 215. l. 12. r. should satisfie. P. 218. l. 20. dele at, P. 221. l. 12. r. what may, P. 222. l. 20. r. contentedly do.

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E S S A Y

Attempting a more *Certain* and *Satisfactory* *Discovery* of both the *True Causes* of all *Diseases* proceeding from *Vicious Bloods*, and the *Genuine Operations* of all *Remedies* used *Internally* in their *Cures*: To which, by way of *Introduction*, are premised some *Free Thoughts*, why the *Practice* of *Physick* is hitherto arrived at no greater a degree of *Certainty*.

TO wast time to prove that Health is one of the Greatest, if not actually the very Chiefest of Temporal Blessings, may seem almost as unnecessary, not to say ridiculous, as to
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endeavour to demonstrate that the Sun shines at Noon day ; since it is an Axiom granted without the least Hesitation, by the Universality of Mankind. So high, and so just a Value have all Men for it, that there are scarce any in the World (those only excepted, who look upon their own Conditions as past Recovery ; or those who are intoxicated with false Notions, that Physicians and Physick are useless and insignificant ; or lastly, those the unhappy squeamishness of whose Stomachs, renders them almost incapable of taking Medicines ;) who are not in pressing and urgent Indispositions, very earnest for the Physicians Assistance. Nay, so far does the insatiable desire of Health, without which, at least in some tolerable degree, Life it self would be burdensome, carry abundance of Persons beyond the bounds of Discretion ; that they will not only lend a listening Ear to, but also greedily follow the Dictates of any, tho' never so ignorant and unskilful in that Affair, especially if those Dictates are delivered with an Air of Confidence, and with large, though too too often ill grounded, promises of Success.

What Remedy is there so Nauseous, which those who are sensible that their Health is endangered, will not willingly swallow ?

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swallow? What Course is there so Tedious, which they will not pertinaciously persist in? What Labour is there so tiresome, which they would not gladly undergo, in order to recover a sound state of Body when lost, and to support it when but tottering?

If therefore the value which Men have universally put upon Health, be not extravagant; it must by a just Consequence follow, that it is at least not blame-worthy, with the most unwearied Industry, to endeavour the finding out the most effectual, the most safe, and the most speedy ways, for the rescuing it out of the Power, and for the securing it from the Insults of all its Enemies; tho' in the Prosecution of these Enquiries, a Person should deviate from the common Road, and tread unbeaten Paths.

These are the Ends that the Sick propose to themselves, and so earnestly covet, that they commit themselves almost blindfold to the Managements of their Physicians, and implicitly for the most part obey their Commands. These are the Ends, that the Labours and the Studies of all Honest and Conscientious Physicians, in all Ages, have been aim'd at. These are the Ends, that their silly Apes, the ignorant, tho' daring Quacks, (for I will not Honour them with the Denomination of Empiricks) so confidently,

and so vainly pretend to. And therefore, by the joint Consent of all Parties, it must be granted, that scarce any thing can be more desirable than truly to state the *Causes* of all *Diseases*; and indubitably to ascertain, if it be possible, the *Genuine Operations* of all *Remedies* in the Cures of them.

When indeed I reflect upon the length of time, since *Medicine* first made a Figure in the World; and in the next place seriously consider the usefulness of it, when rightly managed, to the rendring the Lives of Men Comfortable, and the necessity of it to the prolonging their days, (Usefulness and Necessity, in all other Cases, being two such Powerful Motives to Industry and Ingenuity) to which we may add the large and solid Foundations laid by the *Great Hippocrates*, and his immediate Descendants; I say, considering the Usefulness and Necessity of such Enquiries; the Opportunities, the Encouragements, and the Assistances we have had for the Making them; it may well seem a wonder to a thinking Man, that the *Natures* and *true Causes* of *Distempers*, and the most *Effectual Means* for the *Removing* them, should, after so long a time, be still so great a Secret. One would have been apt rather, on the other hand, to have flatter'd ones self, that long e're this, the endeavours of our
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Ancestors would have rendered the Knowledge both of the one and the other, so plain and certain, that nothing should have been left for us, their Happy Successors, to do, but to reap the plentiful Harvest, and to enjoy the pleasant Fruits of their Labours: Unless Provident *Nature* should now and then start up some new Disease, for us to exercise our Talents upon, in order to secure us from the inconveniences of an unactive Sloth and Idleness.

Might not one, with a great deal of Reason, have expected, that the Art of Medicine should e're this, have arrived at such a Degree of Perfection, as to have furnish'd those, whose Office it is, with Force and Power sufficient, certainly and effectually to Conquer all the Assailants of Health; Old Age and those Affects only accepted, which by their sudden and undiscernable Attacks, do actually destroy the Vitals, before they are discovered? But alas, the Case seems far otherwise! and the generality of People complain, and perhaps with too much appearance of Truth, That the Practice of Physick, is so far from being certain, even in this Age, that a Question may be justly put, Whether the Methods of Cure in use among the Moderns, notwithstanding all the late Discoveries, do any ways surpass, nay, equal

in Success, those of the Ancients, who were destitute of such Assurances?

If this Charge be true, as I doubt 'tis past denial, I hope it will not be look'd upon as Mispendence of Time, to recollect and consider some of those, which I take to be the great Causes, why Medicine has in so long a Tract of Time made so small a Progress; at least in the Practick Part of it. Those which I shall at present mention (in the Enumeration of which, I shall not observe a strict Method) are these following.

I. The *first* I shall assign is, The not sufficiently *Ascertaining* the *Diagnosticks* of each *Distemper*. By *Diagnosticks*, I mean not so much the General History of Diseases, and the Concourse of their Symptoms, as the Particular Specifications of those *Pathognomonicks*, by the serious Consideration of which, a Physician may be led, to the truly *Distinguishing* a Disease from any other, how like soever it may appear to it, at the first superficial View. Had these *Pathognomonick Diagnosticks*, as we may call them, been accurately delivered, and were they as carefully attended to, I cannot but imagin, that the Sentiments of Physicians would have been more Unanimous, about the same individual Cases, than now, to both our Grief and Shame,

Shame, we see they are; and thereby, in a great Measure, all occasions would have been cut off from Physicians of clashing about the Names of the very same *Affect*, to the exposing their own Persons, and perhaps the whole *Faculty*, to the Contempt of the *Vulgar*. Besides, by being fully satisfied what Distempers really were, and what they were not, our *Methods* of *Cure* would be more steady, and not so fluctuating, as frequently they are.

I appeal to common Experience, for want of due Attention to these *Pathognomonicks*, How easily may a *Nephritis* and a *Colica*, a *Fluor Albus* and a *Gonorrhœa*, be confounded? And how often have I my self seen a bare *Chlorosis* mistaken, and sometimes fatally too, for a true *Phthisis*? And if, by reason of the like Mistakes, the design'd Cure be taken in a wrong Method, how dangerous, not to say pernicious, may the Consequence be, I leave any thinking Person to conjecture.

I cannot dismiss this Consideration without bewailing (Oh! that I could do it sufficiently) the inestimable loss which the *Medical* World sustain'd, in the Death of that Ornament of our Country, and his Age, the never enough to be Celebrated, Dr. *Sydenham*; a Person of such unwearied Diligence in Observing; such ready Sagacity in Discern-

ing ; such nice Accuracy in Describing ; and such happy Skill in Curing Diseases ; together with such undissembled Candor, in frankly imparting to the World his Discoveries ; that no Age, no Nation can boast his Equal, much less his Superior, since the Great *Hippocrates*. Were all Physicians as duly Qualified, and would they as indefatigably tread in his steps, in a very few Ages *Physick* might hope to be exalted to its utmost possible Perfection. More I might say in the Praises of this our *English Hippocrates*, without approaching the Borders of Flattery, or exceeding the strict Limits of Truth : And less if I should have said, I had justly deserved to be stigmatiz'd with the most Odious brand of Ingratitude ; since 'tis to him I owe (which I am not ashamed thus publickly to acknowledge to all the World) that little insight I have in *Medicine*, having had the Honour and Happiness, of a free Converse with, and of receiving Instructions *Vivâ Voce* from him ; as also of seeing his never sufficiently to be admired, because most successful Practice, even in the most difficult Cases.

II. A second Cause may be attributed to *Want of due Faithfulness*, and *Want of due Caution*, in many, if not most, of those
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Physicians, who have communicated to the World their *Successful Cures*. *Want of due Faithfulness*, in sometimes concealing things material, and in sometimes garnishing their Observations with things not necessary, if true, and this it may be out of Vanity, for I will not be so severe and uncharitable, as to suspect that they maliciously design'd to impose upon their too credulous Followers, and thereby to lead them into Errors. *Want of due caution* in settling *Methods*; and in recommending *Medicines*, upon too few, nay, perhaps sometimes single Experiments. How easily may these just-mentioned Deficiencies lead into an Erroneous Practice, those who are more led by Authorities and Examples, than by Reason and solid Experience, to the perhaps irretrievable damage of their Patients, and to their own Astonishments; who it may be, before tryal, made themselves Cocksure of another kind of Success? Whereas, were the Accounts of all Medical Cases communicated, and exactly described; *i. e.* Were all the *Histories* of the *Diseases* Accurately, Graphically, and without disguise delineated; together with the daily *Alterations* of the *Phænomena*; and the *Methods* of *Cure*, from the beginnings to the ends, Impartially set down, a Person of tolerable Parts, and moderately vers'd in Practice, might

might be capacitated, by comparing with Care, things together, to make use of his own Reason, in judging whether the Success were actually due to the *Process*, or rather to the strength of *Nature*, or some other *Accident*: Which I am apt to fancy have sometimes a far greater share in our Happy Successes, than we dream of, or are willing to own. Were we truly inform'd how often any *Medicine* or *Method* had been Experimented, before it had been Recommended, we should not be so much at a loss to determine, which of either sort were fit to be relied on, and which not. Were these things, I say, truly stated, and duly weighed, we might hope with more Ease to separate the Trash from the Useful, in our Studies; and not lose so much time to no purpose, as we now are necessitated to do. A subsequent *Mischievous Inconvenience* may be, that young Practisers, finding themselves often egregiously disappointed in their Expectations, by too much relying upon the Power and Force of *Methods* and *Medicines* thus unfaithfully or incautiously Recommended, may create in them a groundless Diffidence of others, more justly meriting their Regard: And this by degrees may beget in them an absolute Contempt of all Medicinal Observations, as well Good as Bad; which may be of very ill Consequence,

sequence, by leaving most things in Physick in the utmost uncertainty imaginable.

III. A third *Cause* of the small Progress made in Physick, I take to be the Sparingness the generality of *Medical Writers* have been guilty of, in Communicating to the World their own *Mistakes* and *Misfortunes*, in the management of Diseases. Certainly the next to the shewing a Traveller the readiest, safest, and best way, nothing could be more serviceable in a Director and Guide, than to caution him against such *Maanders*, as would at best retard him in his Journey; and to give him sufficient Notices how to distinguish the true Road from such Byways (how fair soever they may appear to him) as may lead him into real Danger, if not to Destruction.

But here it may perchance be urged, that it is too severe to expect such a procedure: and that it would scarce have answered the end proposed, had it actually been observ'd; because it might have so far lessened the esteem of the *Candid Authors*, in the Opinion of the too ill-natur'd World, as to have destroy'd their Practice, and thereby to have rendered them incapable of making any Improvements in Physick, as well as of sustaining themselves and Families: Besides, they seem

seem sufficiently to have provided against ill Practice, by the Cautions they have so kindly and so carefully left us.

To this I answer, That Cautions, faithfully, and without any manner of Byass, transmitted, are of the greatest Use: But the Difficulty, as things now stand, lies in truly distinguishing between those that are the Result of Experience, gained only by accurate Observations, and those that are foisted upon the World, in order to support some Darling Hypothesis or other; whereas had we the intire Management of Patients, from the very first Insults of their Diseases, faithfully recorded, together with an exact Description of the Diseases themselves, Men of tolerable Judgments might likewise here be capacitated to Judge, whether the Ill Success were the Effect of mistaken Practice, or the Enormity of the Distemper it self. And to obviate the former part of the Objection, the following Expedient might methinks have been found out, at once to secure the living Reputations of such Candid, and Beneficent Writers, from the Attacks of the Ignorant and Malicious; and also to enrich their Posterity with such Treasures of useful Cautions, viz. To have left them as *Opera Posthuma*, to be publish'd by their Heirs and Executors, for the Publick Good,

Good, in order to deter their Followers, from approaching too near those Rocks and Shelves, where they themselves had before-hand unfortunately Miscarried.

IV. A fourth *Cause* of the small Improvement in Physick, I think may justly be imputed to the *shameful Dissentions* among Physicians. Were these *Dissentions* kept up only in the Schools, to whet their Ingenuities, and where they are under a kind of Obligation, *Jurandi in verba Magistri*, they might be lookt upon as excusable; though even there the Heats that these Disputes are managed with, incline the disinterested Spectators and Auditors to suspect, that the Combate is more for Glory, than Truth; as perhaps in reality it generally is. But the Unhappiness is, that these Janglings are not confined to the Schools only, but the Students, for the most part, carry with them the same quarrelsome Temper, from the *University*, into the World; and when they come to practice that *Noble Art*, are as bitter one against another, as if they had ever been profest Enemies, rather than Brethren of the same Faculty. What should move *Gentlemen* who have had the Blessing of a liberal Education, and so should be supposed to know better

better things, to make use of such ungentle, not to say unmanly, Methods, as are scarce excusable among Porters, may seem Strange, and I can assign but two Reasons for it; which though not good, are the best that I can find out, after the most serious Consideration. The first an *Innate Pride*, which disdains, that any should be thought to know so much, or to be so wise as themselves. The second, A base though eager Desire, to raise their own, though it be by the Ruin of another's Reputation. These two are often powerful enough, to make one oppose what another has proposed, because he had not the Luck first to give it as his Sentiment; and perchance, for the same wise, good and weighty Reason, a Third shall oppose the two former. And thus the old Observation is too often made good in Physick, as well as any thing else; *Quot homines tot Sententia*. But to consider seriously, and to argue calmly: Is it not an errant Shame, that Men, who pretend to the same common End, should not only differ so much about the Means, but also manage their differences in Opinion (if in truth they do differ) with so much Heat and Clamour, with so much Rancour and Detraction, and sometimes with such base Tricking and Undermining, as if
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their chief business were rather by any way, no matter how abominable and unjust soever, to expose each others Mistakes, Miscarriages, and Misfortunes, than to be really serviceable to their Patients? Are these proper and likely ways to raise Physick to the Highest Pitch of Reputation? Or do they not naturally tend to discourage all further Improvements in it, by fully satisfying Men, that the best Return they are to expect for the utmost Industry, and Candor, must be a Torrent of unworthy Reflections from such who perhaps are not able, by true Worth and Industry, to raise themselves to any thing of a considerable Figure among their Neighbours?

V. A fifth Cause, I believe will not be denied, by any thinking and unprejudiced Person, to be the indulging so extravagantly to the setting up *New Hypotheses*, as the Custom of late has been. For the last fifty years and upwards, there has scarce been any Man in the Faculty, of pregnant Parts, and an exuberant Fancy, but what has formed to himself some new Notion or Notions, thereby pretending to solve all the *Phænomena* of Diseases; in the mean time too much neglecting the true *Histories* of Diseases, and the *Nice Observation*

tion of the *Juvantia* and *Ladentia*, the almost only Clews for Leading us safely through so intricate a Labyrinth. Sometimes indeed they will vouchsafe us a General Idea of a Disease; such as will best quadrate with what they will needs have it to be, rather than such as does exactly agree with what it in Truth is. If any thing in a Distemper does luckily happen, remarkably to favour their Sentiments, that shall be sufficiently enlarged upon; but if any thing be so cross-grain'd, as to appear on the contrary Party, it shall either be slipt over in silence, or at the best but slightly toucht upon, unless it can by main force be compelled to change its side; in order to attain which end, if possible to be effected, no Pains shall be spared; no Labor shall be stuck at, rather than their *Idoliz'd Hypothesis* shall suffer a Baffle, much less quit the Field of Battle, and yield it self conquered. But the Mischief is, that Diseases, being sturdy things, and not giving way so readily to Methods and Remedies recommended barely by Suppositions, how plausible soever, as to those found out by sound Reasonings from *Nice* and *Accurate Observations*; does sufficiently evince to the Unbias'd, that discoursing fluently upom them, and curing them effectually, are things as
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vastly different, as can well be imagin'd ; And no wonder, For in one Case we follow the Dictates of Nature, which though sometimes not over clear, yet seldom fail of affording us some real Light ; whereas in the other we generally, notwithstanding all the Specious Pretences to having our Eyes extraordinarily enlightned, run Blind-fold we know not whither ; and if by accident we sometimes hit the Mark, it is rather owing to Fortune, than to any considerable degree of *Art or Skill in the Praxis*.

VI. A sixth *Cause* which I shall assign is, the not duly reducing Diseases into proper *Classes*, but confounding one *Genus*, as the Logicians call it, with another. By reducing Diseases into proper *Classes*, I do not mean ranking such Diseases under one another, as either are attended with much the same kinds of Symptoms, or as do affect the same Members, and Parts of the Body, (which sort of Marshalling most of our Authors are stult with, it may be more than enough) but treating of such Diseases together, as require the same general Methods of Cure, that is, such whose main Indications are the same, though perhaps the *Praxis* may admit of some small

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diversifications, upon account of the different parts affected. As for instance, all Distempers that are truly *Inflammatory* may very justly be reckoned of one kind, as in the general requiring and yielding to one common way of Management, viz. large and sometimes frequent Bleedings together with liberal Dilutions. And this, if I mistake not, will hold true, whether the Disease be barely an *Inflammatory Fever*, a *Pluritis*, a *Peripneumonia*, an *Inflammatio Hepatis vel Ventriculi*, or a *Rheumatism*. Provided, as I have already hinted, they be truly and really *Inflammatory*, the Methods will hold for the most part exactly the same, though it may be that the difference of the Parts may, as I have likewise before intimated, occasion some small Diversifications, in the way of Proceeding: And perhaps the same must be allowed, upon account of the different States and Degrees of the very same Distemper.

I have put into the Instance just mentioned, the Proviso of being really and truly *Inflammatory*, which I take to be no more than is absolutely Necessary, in order to the avoiding gross Mistakes in Practice. For I am fully satisfied that Diseases, which may at first View appear of the *Inflammatory* kind, may often upon a
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more strict and nice Examination, be found to belong to a quite different Tribe: Which I shall hereafter in its proper place fully prove, in the Case of an appearing Rheumatism, which in reality was an Intermittent Fever.

I am much inclined to believe, That I should have almost the Universal suffrage of all considering Men, should I assert that scarce any thing, would more effectually conduce to the shortning of our Studies in order to fit us for a successful Practice, and likewise to the profitably Abridging the *Praxis Medica* it self, than to reduce all Diseases under such proper general Heads or Classes. But though I do believe it may be possible, yet I must acknowledge it to be a Work that will require a considerable time, and a Nice and an unwearyed Accuracy of Observation, to bring it to any thing of Perfection.

This certainly was what the *Antient Methodists* so Nobly attempted, and perhaps had happily effected, had they not unluckily confined themselves to too scanty a Number of Enquiries. And this perhaps the deservedly Celebrated *Baglivy* may in time more successfully accomplish, (if the incredible pains he is at in making his Observations, do not shorten his

days as his Friend *Pallitius* seems to fear) or if he do not actually accomplish it; yet I doubt not, but that he will lay so large and solid a Foundation, that it may not be difficult, for the truly Ingenious and Industrious, to erect thereon a truly Noble and most useful Edifice.

Having this occasion to name the *Incomparable and Indefatigable Baglivy*, I must beg the Reader to excuse me, if I make a Digression from my present Subject, in order to speak my sincere Sentiments of him, and those noble Works of his, which I have already seen. And here I cannot forbear and declare to the World, that I look upon him to be the Wonder and Glory not only of his *own Country*, but also of *our Age*; and can never mention him without the Highest Veneration, as a Person to whom all future Generations, as well as the present, will no doubt be indebted for his Book, *De Fibra Motrice & Morbosa*, if God shall grant him Life and Leisure to finish it. In it he gives us hopes not of opening a pleasant Scene of Physick, to divert our Fancies; but of discovering a Tract of Rich, though long uncultivated Land. Others may seem to have toucht upon the Coasts, or to have seen at a distance, but he only actually to have taken full possession

fession of it: Or at least to have travelled
 through it, I mean the *Doctrine* of the
Solids. I speak this in the utmost sin-
 cerity, and without the least Flattery,
 being satisfied by the *Specimen* that he
 has already favoured us withal, that his
 undertakings are truly Great and Noble,
 and I doubt not when it shall be finisht,
 which I heartily pray God that it may
 be with the most convenient Expedition,
 but that it will prove one of the most use-
 ful Books that has been publisht in Phy-
 sick, since the divine *Hippocrates*. His
 general Division of Diseases into those of
 the *Fluids*, those of the *Solids*, and those
 of a *mixt Nature*, in which both the one
 and the other are ill-affected, though
 perhaps one *primarily*, and the other but
secondarily, seems to me *Easie* and *Natural*,
 and in one word the best of any yet ex-
 tant; though I am not insensible, that this
general Division must and will admit of Va-
 rious and numerous *Subdivisions*, to render
 it serviceable to the effectual promoting
 the Practice of Physick.

For my own part I must own, when
 I consider what Disproportion in quantity
 there is, between the *Solids* and *Fluids*,
 in humane Bodies, I cannot persuade my
 self to believe, that the said *Solids* like
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senseless matter are only passive in all the *Affects*, that disturb our Natures; but am forced at least to suspect that the *Disorders* of the *Solids* are the main, and sometimes the sole Causes, of many of those troublesome Diseases and Symptoms, which render our lives uneasy.

For some kind of Illustration and Confirmation, of what I have here asserted, I desire any serious Person with me to reflect upon, and duly to consider, 1. What uneasy Symptoms, but one drop of any potable Liquor, or but one crumb of Bread falling upon the Top of the *Aspera Arteria*, will in a Moment of time produce. Can that violent *Convulsive Cough*, which attends such an Accident, proceed from any thing else but the immediate *Irritation* of the Membranes, first begun in the *Trachæa*, and the parts adjacent, and from thence successively communicated to the Lungs themselves? Is it possible to enter the Imagination of any one, that will but give himself liberty to think, that so innocent a thing, as either of them is, can create in such an instant such prodigious Disorders in the Fluids, contained in the Lungs, as to excite violent, and such lasting Explosions? But to put this past all manner of doubt, *viz.* that the *Solids* are only

only here concerned, and not the *Fluids*, it will not be amiss to take notice, that all this terrifying Emotion ceases, as soon as ever this crumb of Bread or drop of Liquor can by any means be totally discharged out of the *Larynx*, in almost as small a Punctum of time, as it began; whereas did it really proceed from any *Fermentation*, or *Rarefaction* of the *Fluids*, a much longer Interval must of necessity be required, for the ceasing of the one and for the *Condensation* of the other. And for a second instance, I would desire any one to consider, with what celerity the efficacy of but a small pinch of Snuff, especially if it be keen, drawn up into the Nostriks, of one not accustomed to it, is from thence transmitted to the Lungs, by a momentaneous Communication of the *Irritation*, from the Membranes of one part to those of the other. Can the *short Cough*, which so immediately succeeds the Sniffing up, but a little finely pulveriz'd Tobacco, be owing to any Rarefaction in the *Blood*, or other *Fluids*, which there is not space of time allow'd to effect, considering that, before the supposed Rarefaction can be produc'd, due time must be allow'd for some Particles, or *Effluvia* of the Tobacco to permeate the *Membranes*, and through the *Tanicles* of the Vessels, to creep, shall I say, or

rather fly into the *Fluids* themselves? Or do's it not rather really, I had almost said visibly, proceed from an immediate violent *Crispation, Corrugation, or Oscillation* of the Membranes of the Nostrils, communicated directly to the Membranes of the Larynx, and from thence to those of the Lungs themselves; just as we see the striking at one end, or in any part of a String of any Musical Instrument, if sufficiently Tense, will make it communicate its *Vibration Ictu Oculi citius* from thence the whole Length of the said String?

To both the Instances mentioned I expect it may be objected, that in each of those Cases, indeed it is so obvious, that the effects Enumerated are wholly and undeniably owing to the *Irritation* of the *Membranes ab Extra*; that it seems to be but trifling, and Mispende of time, so much to enlarge upon them.

To which I answer, That allowing them to be, as in truth they are, so obvious and undeniable, yet it is neither trifling, nor Mispende of time, something to expatiate upon them; if for nothing else, but for the sake of the Corollaries, that may be fairly and easily deduced from them. As for instance, if the *Irritation* alone of the *Solids ab extra*, in the Cases specified, do undeniably

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niably produce such troublesome Effects, why should we scruple to allow, that the different *Atonia* of the *Solids*, without any previous *Dyscrasies* in the *Fluids*, may, nay and doubtless oftentimes do, occasion disorders in Humane Bodies, which are frequently, though indeed falsely attributed to vitiated Fluids; whereas the said Fluids may be no otherways ill disposed, than as they are affected by those different *Atonia* of the said Solids? Though till further Experience, attainable only by multitudes of well collected Observations, (made by the Assistance of some due and proper Methods) sufficiently inform us, it may be exceeding difficult, if not impossible, satisfactorily to assign either the various *Atonia* themselves, or the true *Causes* of them; especially considering how totally almost the Study of this noble Branch of *Medicine*, I mean the *Doctrine* of the *Solids*, has, of late shall I say, or rather for many years been neglected, not to term it despised, whilst the other, *viz.* That of the *Fluids* has, though perhaps with very small Success, fill'd up both Pages in our Enquiries.

But here I expect to be interrupted at least, if not clamoured against, as reflecting too severely upon the whole Faculty,
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in not over truly asserting that a due Care and Consideration of the *Solids*, has of late years been almost totally neglected, in the Study and Practice of *Physick*; whereas nothing scarce is more common than to hear of *Nervous Fevers*, and other *Nervous Cases*: And not only so, but also the Works of most Authors, especially of such as have written most nicely, and fully of *Medicine*, are replenish'd with both Directions for, and *Formula* of, outward *Topical Applications*, such as *Vesicatories*, *Fomentations*, *Cataplasms*, *Oils*, *Liniments*, *Unguents*, *Semiscupia*, *Balnea*, &c. by which it may sufficiently appear, that they did not forget, to have a due Regard to what I now, with *Baglivy*, term the *Solids*, though they might not, at least often, use that *Denomination*. Since however the thing it self was so effectually taken Care of, though the term was not used: What occasion is there for this so uncharitable, and so unjust an Accusation?

To all this I answer, That I cannot deny but that the Appellations of *Nervous Fevers*, and other *Nervous Cases*, are very frequent in the Mouths, not only of *Learned Physicians*, who fully understand the utmost Extent of those *Terms*, but also in the Mouths of the ignorant *Vulgar*,
who

who know nothing what is meant by them. But yet if in these Cases we look seriously into the Prescripts of the Former, we shall soon be satisfied that they are chiefly, if not solely, aimed at the Correction of the *Fluids*, which are supposed to be contained in them, without any of the least regard to the Vessels containing those *Fluids*, viz. the *Nerves*, much less to any other of the *Solids*, as they are truly, I doubt not, distinguished by the *Sagacious Baglivi*, the *Membranes*, I mean, and *Muscles*: Which ought, at least in many Cases, by no means to be wholly neglected, and disregarded. Of the Truth of this Assertion those *Cephalick Cases*, mentioned by the above named Author (in the 3d Paragraph, under Fig. IV. of his *Animadversions upon the Antient Theory* in his *Preface* to his *Specimen De Fibrâ*, &c. in Page 257. of his Works Printed in 4to. at *Lyons* 1704.) are undeniable Proofs. And as to Outward and *Topical Applications*, I believe the strict Examiner will be forced with me to confess, That though they are frequently used, and have been constantly Recommended, by *Medical Authors*, yet (except in Cases purely Chirurgical) the chief use, which has of late been made of them, has rather generally been

been to Mitigate some present urgent Symptome, than with any Prospect, or Intention of working in any Case a perfect Cure, as might perhaps be reasonably expected, from a due persisting in, and a dextrous management of them. I must indeed freely acknowledge, that great, and sometimes, at least in my Apprehension, (in which Opinion the so often named Celebrated *Baglivi* seems to concur with me) too great use, is made of one of the outward Applications, by me above mention'd, in the Objection, and that is Blistering. But even in this Practice, the Correcting any *Atonia* in the *Solids*, (tho' I fear they often unnecessarily produce them) is not so much consider'd, as the Discharging by Evacuation the *Acrimonious Serum*, which 'tis thought is too redundant in the Blood. So that, after a due Consideration of all above urged to the contrary; I can see no just reason to retract my Charge, that the Study of the *Solids* seems of late, to have been almost wholly neglected among Physicians, both in the *Theory* and *Practice*.

And now, upon the whole, if the above-cited general Division of Diseases be true, as perhaps Posterity may find it, what great Improvement could we expect in
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Physick, from Endeavours directed chiefly, if not solely, to the *Peccancy* of the *Fluids*, without almost the least Respect had to the *Atonia* of the Solids: The sad and lamentable *Affects*, of which latter, 'tis probable equal, if not exceed the Disorders occasion'd, by the *Discrasies* of the former.

VII. Nor will our Enquiries into the *Causes*, of the *Discrasies* of *Fluids* themselves, (tho' those have had most of our Serious Thoughts spent upon them) after a strict Scrutiny, be wholly free from Exceptions, as I shall have occasion hereafter to make out. And this may well pass for a *Seventh Cause*, why Physick has hitherto arrived at no higher a degree of Perfection.

And here I cannot but assert, that most of the *Causes*, which are assign'd for those Diseases, which take their Origins from *Vituous Fluids*, will I doubt not upon Calm and Serious Consideration appear Precarious, Unintelligible, or Chymetical, or at least no way satisfactory.

But before I proceed on this Debate, it will not be amiss to take care, not to leave the Reader in the dark, as to what I here mean by *Causes*; and therefore I think it
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necessary, to inform him, that I do not in the least design, to enter into a particular Consideration, of all that Large List of Causes, delivered in the Schools, but only in general, intend thereby those several *Discrasies* in the *Fluids*, which produce *Indispositions* in the Bodies of Men: and by the Removal or Correcting of which, the sound States of the said *Fluids* are Restor'd; tho' perhaps the Effects of the said *Discrasies*, may not immediately be totally taken away.

For the Proof then of what I have above so boldly asserted, *viz.* That the Causes hitherto generally assign'd, of the Diseases of the Fluids, are Precarious &c. I need only to urge, to any Unbiass'd Person, that they have been so unsatisfactory, that as the World improv'd in Learning, the old receiv'd *Dogmata* of the Schools, which had reign'd so long (and which pretended to derive all those Diseases, and almost all others besides, from the Deficiency or Redundancy of the *Quaternary* of Humours, or from the various Combinations of them) became at last Insipid, not to say Nauseous, to their nicer Palates, and unwillingly gave way to the Chymical Principles. After this succeeded the *Triumvirate* of Humours, and

and this likewise yielded to Fermentation and Exploſion; together with the now Celebrated Notion of *Acid* and *Alkaly*. But whether any of this Jargon will long continue agreeable, to the ſtill more Refined, as we may juſtly expect, Intellects of future Generations, time it ſelf muſt ſhow. But this I think I may adventure to ſay, That all theſe recited *Causes*, being purely *Conjectural*, none of them admitting of a clear Proof, and being likewise all of them liable to great Objections, muſt of neceſſary Conſequence, leave the Minds of Men in ſuſpence, at leaſt, whether to grant or deny their Aſſent to any of them. And this Incertitude of Mind, ſtill pushes on the Ingenious, (and ever will do ſo, while we ſhall endeavour to find out the true *Causes* of Diſeaſes barely by Conjectures, and Gueſſes) to try whether they may not be able to excogitate Notions, which may be more unexceptionable, and more agreeable to the *Phænomena* of Nature, than thoſe which went before them; tho' perhaps with as little Succeſs.

I am not Ignorant, that there have been ſome Endeavours of late Years, to treat of *Medicine Mathematically*, and conſequentially *Demonſtratively*. This I confeſs would be

be a truly Noble Work, could it really be effected, if for no other Reason, yet for this, that we should be obliged to believe nothing without full Demonstration, which by its convincing Proofs would put all things out of Dispute. How far this generous Design, may in time succeed, I cannot tell, but, by what I yet have seen, am fearful it will require some Ages to render it Intelligible, and useful to the World. I readily own, that I have gone through the *New Theory of Fevers* of an Ingenious Author, as he requires with a Moderate Attention; and tho' not quite destitute of a smattering in the Mathematicks, (another Qualification wish'd for by him in his Readers) yet am perfectly at a loss, how certainly to discover the Natural *Dimension* of the *Canals* in Humane Bodies, even in a healthy State, (being fully satisfi'd that those Dimensions, may be and really are various in different Healthy Persons) and much more accurately to determine, the various degrees of *Contraction*, and *Dilatation*, which may or actually do produce Indispositions and Diseases. Nor can I tell what little Messenger to dispatch into those Internal Regions, in order to satisfy my Necessary *Curiosity* in those particulars

ticulars, and yet without a right Information herein, I never can according to this *Hypothesis*, (for I can call it, by no other Name) certainly adapt my Medicines, did I know the Virtues of them never so fully. If it be reply'd, that those Enquiries are to be satisfied from the *Calculation* of the *Symptomes*, and of the *Intenseness* and *Remissness* of them. This I humbly conceive will be so far from reducing Medicine to a *Mathematical Certainty*, that, if I am not grossly mistaken, it will leave it to be as purely *Conjectural*, as ever it found it; and only dress up the Old Dish with a different Sawce, or at best but in a different Manner.

Hippocrates, in his Book *De Prisca Medicina*, relates the Sentiments of those Physicians which were before him thus, *Nam neque sicco neque humido*, &c. Page the 13th of the *Foëfian* Edition of *Frankfort* 1624. (and of the *Linden* Edition, *Amsterdam* 1665. Vol I. Page the 27th N°. XXIV.) By this Quotation, which may be read more at large in the places cited, I think it evidently appears, that the Physicians before *Hippocrates*, judged Diseases to proceed, not so much from *Excesses* in the first Qualities, Dry, Wet, &c. as from *Exorbitancies* in the other sensible Qualities. For in their

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Enumeration of *Causes*, they seem so far to accuse Sweet, Bitter, Acid, &c. as to acquit Hot, Cold, Wet and Dry, from any share in the Production of Distempers. Nor do's the Opinion of *Hippocrates* himself much differ from that of those before him. For though he do's not look upon the four first Qualities as wholly unconcerned and innocent, yet he himself seems to prefer the severest Charge against the other, as will manifestly appear to any one, that shall seriously consider what he says Page the 15th of *Foësius* (and Page the 31. N^o. XXX. Vol. II. of *Linden*) where you will find much more tending to illustrate this his Assertion, which, if I do not grossly mistake his meaning, is, That the real *Causes* of Fevers are Bitter, Sharp, Salt, &c. and that Heat only put the former more vigorously into Act.

But here methinks some Grave Reader abruptly breaks in upon me, and cries; What need of all this pains to prove that which perhaps is scarce denied by any, *viz.* That second *Qualities* have a great, if not the greatest share in the Origin of Diseases?

The Objection I must own would be good, had I only in my view to prove this Assertion, which in truth needs no proof:

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But this was the least in my thoughts, (though by the way I here find not only Soure and Sweet, or in the terms of some Moderns, *Acid* and *Alkaly*, but also other sorts of tastes, reckoned among the Causes of Diseases) and what I have urged was only for the sake of an Inference, I intend to deduce therefrom: which, though obvious enough, seems hitherto to have been little, if at all, taken notice of. Perchance the Obviousness of it has rendered it contemptible, however as contemptible as it may appear, take it as it follows.

If the Causes of Diseases, of the Fluids I mean especially, be really the *Exorbitancies* of second Qualities, what need is there of racking our Brains so much, in the searching them out, and assigning them? What need of inventing so many subtle *Hypotheses*? Are not the Sences themselves the most, if not the only proper Judges of those Objects? For instance, do's not one single Taste of *Acid*, *Bitter*, *Sweet*, &c. give us a truer *Idea* of any of them, than ten thousand Elaborate Discourses of them can do, without the Assistance of the Sense of Tasting? Again, do's not one single view of a *Yellow*, *Green*, *Blue*, or any other Coloured Object, strike a more certain, and a more lasting Impression upon the

Imagination of any one, whom the Good God has blest with the Happiness of sight, than a years continued well composed Lectures upon those Subjects, can fix upon the Fancy of one born Blind? The like may be said of the other *Senses*. Why then do we so far mispend our Time, and abuse our Reason, as to suffer our raving Fancies to lead us, under the false pretences of truly Philosophizing, into inextricable Mazes; when, would we but diligently attend the *Dictates* of our *Senses*, our way would be more plain before us, and we should be less liable to deviate from it?

This, I doubt not at first View, may look like an absolute *Paradox*; and yet in the Sequel, I hope fully to make out the Truth of it, without running *Medicine*, into any danger of *Quackery*, unless a *Rational Empiricy* deserves to be stigmatiz'd with so infamous a Character; though for the present, I shall dismiss the further Consideration of this Topick; on purpose to assign some other Causes of the little Improvement made in Physick, which I have not yet touch'd upon, and which yet will be necessary Preliminaries to what I have all along principally design'd, and for the sake of which, I have adventured upon the *Writing and Publishing* this *Essay*. VIII.

VIII. An eighth *Cause* to which I fear, though perhaps others may not be altogether of my mind, the small improvement of that Noble, and necessary Art of Physick is justly to be attributed, may be the taking the Power of Medicines too much upon Trust, without duly Examining, if at all, whether the *Vertues* attributed to them are *Real*, or only *Imaginary*. In this Charge I would not so far be misunderstood, as to be suspected guilty, of calling into question the Candor and Veracity of the *Antients*. No, I am so far from that, that I do not in the least imagine that they had any purpose, wilfully to impose upon the Credulity of their Successors: But perhaps even they themselves might, in some things, be misled by the profound Deference they paid to the Sentiments of their Ancestors, and might implicitly believe what had been handed down to them by Tradition. Which Notion I hope will not be lookt upon as altogether Wild, by any, who shall but consider what Veneration in those days they had for their Priests, who have been generally thought the *Conservators*, and first *Dispensors*, of this and all other Parts of their Learning: Which Veneration might

make them look upon it as *Piacular*, in the least to doubt of the Truth of any opinion once received from them, whose very words pass'd for Oracles. These undesign'd Errors (if any such there were) of the Antients, we may suspect, were without Examination copied by those which succeeded them. As the Successors of the Antients dealt with their Ancestors, so did theirs with them, from the same Principle of Veneration, and so on from one Generation to another: the succeeding always looking upon it as needless, if not Criminal, scrupulously to search into the Credibility of the Traditions of those before them; especially of those that were the farthest removed from them. And as the *Materia Medica* in future times swelled into a larger Bulk, the number of mistakes 'tis possible may have continually increased, by the unheeded slips of the Writers of each Age. What makes me the more inclinable to be of this opinion, That Errors have been transmitted to us by Writers transcribing from others, without any manner of Examination, is that, if we shall take the pains to compare the several *Systemes* of the *Materia Medica* (especially those publish'd of later years) we shall find that some of the *Compilers*,
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shall I call them, or rather Transcribers, have copied so exactly, as not to correct the very *Errata* of the Press, as I have sometimes observed.

It would be happy, if the Harmony among the *Collectors* of the *Sylvæ Medicaminum* were as certain a Proof, that those Medicines, wherein they agree so exactly, were indued with all those *Vertues*, which they unanimously ascribe to them, as their Discordance about others is an evident Token, that they are not yet truly inform'd of their real *Faculties*. But I much fear, that those who build too much upon their Mutual Agreement, even in the former, will frequently upon Tryal find their Expectations defeated, and be left in the Lurch sometimes when they are most confident of Success.

One of the great Reasons of this Uncertainty I take to be, as I have already hinted, the not duly examining the *Virtues* of *Medicines*: Or, to express it more at large, (at least so far as relates to the chief design of this Tract) the not taking proper Methods, for the Investigating the immediate *Operations* of Medicines, upon the *Fluids*, and among these more especially the *Blood*.

The Antients seem to have contented themselves to Judge of the Operations of Medicines, upon the several *Humours* assign'd by them as the *Causes* of *Diseases*, by their sensible Effects of doing Good or Hurt to their Patients, in the Cases wherein they were made use of, without ever entering into any further Consideration, by what *immediate Alterations* in the *Blood*, and other *Fluids*, that *Benefit*, or that *Damage*, was produced. They industriously cultivated the use of those *beneficial Medicines* they then knew, whether transmitted to them by their Progenitors, or communicated to them by others then Living, or found out in their Practice, either accidentally, or by the *Analogy* of *Reason*, and as carefully avoided whatever they apprehended by any of these ways might be *Dangerous* or *Pernicious*. And I do verily believe, that they did truly and faithfully impart the Advantages or Disadvantages of the Medicines they made use of, with respect to those *Distempers* they had try'd them in, without ever concerning themselves with Reflections on the Particular ways of each *Medicines* producing its good or bad Effects. After this succeeding Ages, for what solid Reasons I must freely own is to me wholly unknown, added the

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Signatures of Simples in Figure, Colour, Taste, &c. as *Criteria*, to judge of their Force by: But this Notion to me appearing extremely precarious, not to say worse, I shall not trouble my self with any further Consideration of it; no more than I shall with another every whit as well grounded, *viz.* That such and such Plants were under the Dominion of such and such Planets: The Truth of which Opinion likewise, as well as of the foregoing, according to my weak Capacity, it will be extremely difficult to make out satisfactorily, to any unprejudiced Person. Next I must rank, but whether in order of time I will not pretend to determine, (because the *Chymists* pretend to great Antiquity, deriving themselves and their Art from *Hermes Trismegistus* at least, if not from *Seth* the Son of *Adam*) the *Analysing Simples*, into their first *Principles*. But here I fear the Torture of the Fire may extort from them false Confessions, and force them to make Discoveries not fit to be relied on. And though I will not be so foolish, as well as disingenuous to deny, that *Chymistry* has furnish'd us with several useful and not ingrateful *Medicines*, yet I must crave leave to doubt, whether it do's not oftner egregiously deceive its strictest *Votaries*, than satisfie their long-

longing Expectations. And that I am not the only Person who has entertained this Suspicion, if it were necessary, I could insert a Caution given me near twenty five years Ago, in the infancy of my *Practice*, by a Person of great Probity and Candor, who had long bent his Studies that way: But I shall wave it, as being too exasperating, and as some perhaps may think too severe.

But none of these already mentioned *Methods* affording intire Satisfaction, to the inquisitive temper of the latter *Ages*, put the *Ingenious* upon looking out after other ways of *Discovering*, if possible, the *Vires Medicaminum*, which though they seem at first view more plausible, yet are liable to no small Objections, as I shall take occasion more fully hereafter to shew; though for the present I shall forbear any Consideration of them, as not having yet plained my way to them.

What I shall further urge at this time is, That some of the *Simples* made use of among the Antients are, it is to be feared, lost to our Knowledge; and several others of them if they are not wholly lost, yet I'm very apt to suspect have quite changed their Names, and by consequence as good as lost to us. In Confirmation of what I have

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have here asserted I must freely own, that I cannot induce my self to believe, that the *Parthenium*, *Serpillum*, *Pulegium*, *Ocymum*, and several others there mentioned, which *Celsus* (Page the 116th of the *Linden* Edition 1665.) ranges with *Portulaca*, *Papaveris Folia*, in the List of those *quæ reprimunt & refrigerant*, are the same with those which we now call by the same Names, notwithstanding *Vinum* it self is inserted in the same Catalogue; if therefore we are so much in the dark, as to the Names of Simples, which were in Use, in the time of *Celsus*, who is supposed according to Mr. *Le Clerc*, in his *Histoire de la Medicine*, to have Written towards the latter end of the Reign of *Augustus*, or at the latest, about the beginning of that of *Tiberius*, how much more are we likely to be in the dark, as to those made use of by *Hippocrates*, who is thought by the same Author to have Flourish'd, above four Hundred Years before *Celsus*? And if misled by the Sounds of Words, we make use of *Medicines* different from those of the *Antients*, we ought not at any time to wonder, that our Prescriptions produce not the same Effects that theirs did.

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Since therefore our Knowledge of the immediate *Operations* of *Medicines* upon the *Fluids*, is to this day so imperfect: Since there remains to us nothing but the bare Names of *Medicines* in great Use, and by Consequence of great Efficacy among the Ancients: Since several *Medicines* now in Use among us agree not in Qualities and Virtues with those of the like Names among the Ancients; I hope, all those things I say consider'd, it will be look'd upon at least as an excusable, if not a commendable Design, in me or any one else to attempt the freeing of the Art of Physick, from that Uncertainty it seems at present to labour under, in the choice of fit and proper Means, for the attaining those Ends it aims at, in its Endeavours of relieving, and securing us from the Insults of many of the Enemies of our Healths, by hinting at least at a likely Method satisfactorily to discover both the true Causes of all those *Diseases* which proceed from *Vicious Dispositions* of the *Blood*, and the *real Operations* of all sorts of *Medicines*, internally exhibited, in order to the Effectual *Cures* of the said *Diseases*. But before I proceed to that, I must beg leave not only to mention, but also something at large to speak of, what I take to have been

been another great Cause, of the small Improvement made in the Practical part of Physick hitherto: And which is the last, which I intend to trouble the Reader with. And that is,

IX. The frequently *Jumbling* too many Ingredients together in *Prescriptions*. Certainly the Old Rule here, if any where, holds true, *Frustra fit per plura, quod fiat per pauciora*. If the Diseases of the *Fluids* (for those are they, upon which I have principally fixt my Eye in this *Essay*) proceed according to the Opinion already quoted of the Ancients, from an *Exaltation* of this or that *Taste* in them, (a Notion the Truth of which I can see but little to call in question) what mighty Success can we reasonably expect from the amassing together Simples of Various Tastes, as well as Temperatures. Is this likely to depress the said *Exaltation* better than single *Medicines*, given in due Doses, and repeated frequently enough? Is the Confusion of *Remedies* of different Relishes, in one and the same Prescripts, likely to produce a determinate and certain Effect? Must not in such Compositions the Simples act upon each other, and likewise be re-acted upon by each other?

ther? And the more compounded any Medicament is, must not, by necessary Consequence, the Actions and Re-actions, of the several Compounding Particulars, be so much the greater; and thereby the whole *Concrete* be, if I may be permitted so to call it, a *Tertium Quid*, vastly different from any of the *Simples* it is made up of, and therefore the less likely to produce the Operation we design it for? Or if by chance, through the Predominancy of any one of the Compounded *Simples*, a Cure be wrought, or real good be done, how extremely difficult may it prove, to the most piercing Judgments, to determine from which of them the Benefit proceeded, unless the Briskness of its Taste, the Strength of its Smell, should happen kindly to discover, in which of its Ingredients its Beneficent Energy lay? Whereas did we strictly proceed in the Use of Simple *Medicines*, or if that seem too Inartificial, did we in our Prescriptions seldom or never combine more than two, or at utmost three; how easie in Comparison, might we hope to attain to a more satisfactory, and more certain Knowledge of the Nature, and Force of Remedies? And in truth to what End and Purpose is this Delusive, and I had almost said Pernicious

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ous Ostentation of *Ingredients* in a Bill? Does their Number in reality render them more Effectual, or less Dangerous? If they all agree and aim at the same Intention, would it not be of as good, nay better use, to give any one of them in a sufficient Dose? If they are of different Natures, as too often under some specious Pretence or other they are, may they not retard if not destroy each others Operation? And then shall we not have a Pompous Nothing, for so I must necessarily call that which works no Effect? If they are any of them of too Active Principles, would it not be more proper wholly to omit them, or else to give them in such small quantities, as might not be offensive, and yet powerful enough without Correctives? If any of them on the contrary are so *Torpid*, that they would not work of themselves, unless given in a Dose disagreeable to the Stomach, would it not be more adviseable, absolutely to banish them out of Practice for their unusefulness, and in their stead to substitute such as might, in more Moderate Doses, effectually and yet safely satisfy the same Indications, than to add *Stimulators*? Besides is not one single Remedy, tho' perhaps not over pleasant in it self, likely to fit more easie, even

ven upon the weak Stomach of a Sick Person, than a Gallymaufry of many, which consisting of various, and sometimes contrary *Tastes*, may disturb the *Tone* of the said Stomach, so as to render it incapable, either of retaining a Medicine long enough, or of receiving it often enough, to produce any good Effects.

I am well aware, that to all which I have said upon this *Topick*, it may be reply'd, That were we always to deal with simple Indications, what I have urged might be allow'd to have somewhat of Force, but alas the Case is far otherwise; and we generally, if not always, have more than one *Intention* to respect.

To this I answer, That allowing this Objection the utmost weight it is capable of, yet due care ought to be had, that we do not unnecessarily multiply to our selves *Indications*. I am the more inclined to insist upon this Caution, because I doubt not but that oftentimes many *Indications* may appear to be in a Case, where only one is the *Principal*, and the rest but bare *Attendants*; so that when the *Principal* is satisfi'd, the rest will vanish with it. That this is not a groundless Surmise, I dare appeal to the Determination of any Man, who shall but allow himself the Liberty
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to reflect upon the Variety of Symptomes attending all Intermittents. Before the discovery of the *Indian Bark*, how many distinct *Indications* did they afford? And yet we now see, That that one Remedy, effectually answers them all. From whence must undeniably be deduced one of these two Conclusions: Either *First*, that by correcting one peculiar Specifick *Discrasie* of the *Blood*, or any *Fluid* or *Fluids*, if that Disease really takes its Rise from any Vice therein (for it is not pretended that the *Cort. Peruv.* do's usually procure any sensible Evacuation, and thereby actually carry off the Morbifick matter) or by restoring a due Tone to the *Solids* or any of them, if it shall be thought more Rational to assign the Source of the said *Distempers*, to any *Disaffection* in them, the whole *Syndrome* of *Symptomes*, how multifarious soever, is at once mitigated and relieved, and the Sick Person reinstated in Health. Or else *Secondly*, (which affords a more direct Answer to the Objection) that it is possible, with one single *Medicine*, to satisfy many *Intentions*. And indeed there being but few, if any *Medicines*, but what are indued (or at least supposed so to be) with *Various Faculties*, I can see no reason to question, but that various *Intentions* may be sufficiently satisfied by one

Simple ; provided due Care be used in the choice of it. But after all, supposing a Case so complicated, that the use of one *Simple* will not be sufficient, to enable us to arrive at the several Ends, we must have in View, I cannot, according to my present Apprehensions, think it adviseable for the Reasons, above hinted , in a Prescription to make use of 4, or 6, much less to cram in 10, or 12, when two may perform the business much better. The *Celebrated Etmuller* seems himself to be of the Opinion, when he says, *præstat quatuor quàm Centum*, speaking somewhere accidentally what number of Ingredients it may be convenient to insert in a Bill.

Thus I have ventured freely to hint at those things which I take to have been the True Causes, why the *Art of Curing* has for several Ages made so small a Progress in the World. Whether my Suspicions are just and well grounded, I shall as freely leave to the more Judicious, seriously and considerately with themselves to Discuss and Determine. If in any I have grossly erred, as perhaps I may have done in all, I must clear myself from any wilful Malice, by solemnly Protesting, that nothing, but an earnest Desire to be truly serviceable, as much as lies in my Power, to the *General Good of Man*;

Mankind, has moved me to this undertaking: Which therefore I hope will meet with the more favourable Reception, from any who are more Friends to Truth, (how meanly drest it may appear in Publick) and the Common Benefit, than to Faction and Party.

I cannot but own, that several of the *Causes*, which I have assigned of the little *Improvement* made in *Medicine*, are foreign to my Designs, (which were, *first*, to examine the *Methods*, in latter Ages made use of, in *Investigating* the *immediate Operations* of Remedies, upon vitiated Humane Bloods: And *secondly*, to propose a *New one*, which at present appears to me both safe and satisfactory, and less liable to Censure than any of those which I shall reflect upon; and which may tend at the same time to give us a righter Notion of the *True Causes* of Diseases, at least of such as proceed from any *Peccancy* in that *Crimson Fluid*) but I hope that the Candid Reader will not be offended at those Digressions, which should they seriously be attended to, may if I have not taken my aim amiss, in time to come, help to set *Medicine* upon a not-to-be-shaken *Basis*, and render it, as the most necessary, so the most useful Art; by taking away, if it be possible, all Uncertainty from

the *Practice* of it, and thereby freeing it from any Colour of Contempt, among the ignorant Vulgar, who for the most part judge of all things only by the Event.

And now it is high time to take into Consideration some at least of those Methods, which the Inquisitive have thought fit to make use of, in order to the more fully satisfying themselves of the *Immediate Operations* of *Remedies* on the Blood in Humane Bodies. For as to the other *Fluids*, looking upon them, as either Products of, or Secretions from that, I shall not think my self obliged much to enlarge upon them, for Reasons hereafter to be specified.

The two Methods, which I shall more particularly Consider, are;

First, That wherein, in order to the satisfying our Curiosities, *Medicines* are mixt with *Extravasated Blood*.

Secondly, That wherein Experiments are made by *Injecting Medicines*, *Immediately* into the *Veins* of *Living Animals*.

Each of these *Methods* are faulty, at least they appear so to me; either in the *Subjects* they are exercised upon, or in the Way of making the Experiments; and the latter in both, as I hope in the Sequel evidently to make out, to any unprejudic'd Person.

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As to the *first Method*, I cannot deny when sole Experiments are made upon the *Blood* (or upon the *Serum* or other *Fluids*) of a Man, that they are so far tryed upon proper *Subjects*. And yet even in these Experiments, there are many Circumstances, which to me render them very far from being Satisfactory: Or which at least raise such Clouds in my Understanding, that I cannot at least clearly discover, how Experiments, thus circumstantiated, can possibly give us the Satisfaction, we desire and seek after. For to me it appears something more than a doubt, Whether the *Operations* of *Medicines*, upon *Extravasated* and *Circulating Blood*, be always, if ever, the same. The uninterrupted and rapid Circulation of the Blood must of necessity more thoroughly, more universally, more equally, and more intimately mix any *Medicine*, when regularly admitted into its Mass, with its *Constituent Parts*; and by the perpetual *Collision* of this *Noble Fluid*, thus impregnated, against the internal sides of the *Containing Blood-Vessels*, and by its forcibly straining it, through the minutest *Extremities* of them, grind, as I may call it, the *Medicine* into infinitely smaller *Particles*, than can with the least pretence of *Reason*, from any way of mixing it, yet found out, with *Blood Extravasated*.

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primis preparatum.*

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 ftirring, the whole quantity of the Extra-
 cted Blood cannot be equally acted upon
 by the faid Medicine, but thofe parts, that
 lie neareft to the infufed Medicine, will be
 more vigorously affected; and thofe further
 off, but faintly, if at all. If the Blood be ftirr'd
 a little, 'tis true that the Force and Effi-
 cacy of the Medicine will be more exten-
 fively difperfed, into a larger Compafs of
 the Mafs, but I doubt a fufficient mixture
 will not fuccæed, to give us intire Satis-
 faction in our Enquiries. And if it fhall
 be very much *Agitated*, in order to the
 intimately blending the *Blood* and *Medi-
 cine* together univerfally alike, I fear this
 likewise will difappoint our Expectations.
 For this violent and continued *Agitation*,
 by infeparably uniting the *Serum* and the
Globuli together, will prevent our disco-
 vering fatisfactorily, what Operation the
Medicine has had, upon either the one or
 the other. And if, to avoid this laft na-
 med Inconvenience, the *Agitation* be per-
 formed holding the Veffel, into which the
 Blood is emitted and the Medicine infufed,
 over the fire; or if to remove it after the

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Agitation, the said Vessel be exposed to the Fire, in order to *accelerate a Separation* of the *Serum*, from the *Globuli*, it may create a doubt in the Mind of a scrupulous Person, whether the *Alterations*, he shall then find, be more the Product of the *Medicine* infus'd, or of the Heat of the Fire; or whether they may not be such *Effects* of both together, as would not have been produc'd, by either of them singly by it self. ~~_____~~

But when these Experiments are made upon the Bloods of other Animals, I hope it will not be thought strange, if I should assert, that they are still much less satisfactory; not only for the Reasons already assign'd, but also because they are not try'd upon proper Subjects; as I shall have occasion by and by to evince.

However at present supposing, tho' not granting, that this way of *Experimentizing* the *Force* of *Remedies* upon the Bloods of Irrational Animals, were obnoxious to neither of the Objections already advanc'd, I shall proceed to enquire, What Satisfaction, for the Advantage of *Practice*, we may hope for, or expect from thence; which I shall do, by making some just Reflections, upon one or two of those succinctly Communicated to us, by the truly Ingenious Mr.

F 4

Friends,

*Mixturæ autem inter oculos parit
aperitur aures, quidam in Venis
Exilet, excluditque.*

Friend, in his *Emmenologia*, and by making some suitable Remarks upon a like Number of those of the deservedly *Famous Baglivi*.

But, before I enter upon this, it will be necessary for me once for all to purge my self from the least design in the Examining either this, or the other Method of finding out the *Operations* of *Medicines*, of Unmannerly, or Maliciously reflecting upon the Worthy Author just mention'd, viz. Mr. *Friend*, whose Book it self does sufficiently prove him to be a Person of Solid *Learning*, and indefatigable *Industry* in his Enquiries; and one who is likely to be an *Ornament* to the Age. If therefore either in this place, or any where else hereafter, I shall seem to pass too severe Censures, upon any of his Experiments, I do here faithfully assure him, and solemnly protest to the whole World, that they do not proceed from any Disrespect to his Person, (for which I have as deservedly a great Veneration, as he can himself wish) but from the, at present to me, Unsatisfactoriness of the Experiments themselves. And as to the other universally and deservedly admired Author, the *Great Baglivi* I mean; I hope that the Sentiments, which I have above, with the utmost Sincerity express'd

press'd both of his Person and Works, will be sufficient not only to prevent any manner of Suspicion, of designing in the least to detract from his *Merit*, but also to evince to the whole World, that it is with the greatest Reluctance imaginable, that I am forc'd to dissent from the Opinion he seems to have entertain'd of the mighty Usefulness of these sorts of Experiments, towards the Improvement of the *Practice of Physick*.

Those which I shall at this time pitch upon, as tending to evince the more than ordinary Usefulness of this *first sort* of Experimentizing the Operations of Medicines, on and in the Blood, toward the settling a *certain Practice*, shall be the 6th. and 12th. of those Experiments, mention'd by Mr. Friend, in the Book aforesaid, by mixing Remedies with Blood drawn from the *Artery* of a Dog.

The *Sixth* acquaints us, that the mixture of *Aqua-fortis* with that *Blood*, produced a strong *Fermentation* and *Coagulation*, &c. (which are not incredible) and concludes, that the Juice of *Bistort* wrought almost the same Effects. Now would not the Serious Consideration of the like Effects, from two such differing Remedies, make a Stoick lay by for a while his *Apathy*, and Smile at least?

least? Or must we fairly from hence infer, that the Juice of Innocent *Bistort* is almost as rank a Poison as *Aqua-fortis*?

The *Twelfth* Experiment informs us, that by the Mixture of *Balm of Gilead*, with some of the same Blood, the said Blood was much thickened, and turned as it were into *Putrid*. Would any that was a perfect Stranger to the *Virtues* of *Medicines*, from this Character so much as dream, that this *Simple* deserved to be Celebrated, for its *Sanative* or any other good *Quality*? Its *thickening Faculty* might make him apt to hope, that it might be of some Service in Cases where the Consistence of the Blood was too thin; but even there the Consideration that it was of a *Putrifying Nature*, must of necessity render him Cautious how he recommended it, if not absolutely deter him from the Use of it.

I will not here remark, how improper a *Method* of Experimentizing the Force of Medicines, it is to mix them sincere, *i. e.* unaltered with the Blood; but refer that Consideration to my Reflections on the other Method of *Indagating* the *Medicinal Faculties* of *Simples*: To which I shall now betake my self, and upon which I shall

dwell somewhat longer, than I have done upon this Former.

I doubt not, but that the *Experimenta Infusoria*, were at first attempted, with a Design, chiefly if not solely, to prevent the Objections so obvious against the former *Method*. But, upon a nicer weighing of all Circumstances, I am apt to think it will appear, that this latter *Method* is liable to no fewer, nay perhaps to many more, than that already spoken to.

To speak my present Sentiments freely, tho' with all due Submission to better Judgments, bating only that these *Experiments* are made upon Circulating Bloods; I cannot see what there is in them to recommend them. For if we consider the *Subjects* that they are try'd upon, they seem to me *improper*, as can be chosen: If we consider the ways made use of in the Management of them, they seem as irregular as can well be thought on: And if we consider the Success of them, I flatter my self, that the unprejudiced part of Mankind will with me acknowledge them far from Satisfactory, not to call them Trifling.

As

As to the *Subjects* made use of, it is true as already acknowledged, that they are the *Circulating Bloods*, not indeed of *Men*, (for whose Benefits these Experiments are or ought to be chiefly designed) but of other *Animals*.

I will not deny, but that the Bloods of Brutes, as well as that of Man, do consist of *Serum* and *Craſſamentum* or *Globuli*: and no doubt but upon Distillation they may, if rightly managed, as well as it, yield *Spirit*, *Salt*, *Oyl*, *Phlegm*, and *Caput Mortuum*. But will this prove, that they all consist of the very same *Constituent Parts*? Or that the *Constituent Parts* of all, are all so exactly alike modified, that there are no manner of Diversifications among them? May not, nay do not the different Diets, and different ways of Living, as plainly shew, as if the Notion were written with a Sun-Beam, that the *Bloods* of them are, not only Individually, but also Specifically different? Must not the different *Foods* of *Brutes*, by a necessary Consequence, produce different sorts of *Bloods*, since the *Bloods* of *Animals* are generated, or, at least as I may say reproduced, from the *Foods* they take in? And do's not even Experience teach us, that what may be *Deleterious* to one *Animal*, may be *Alimentary* or *Cordial* to another? If these

things
*Si hoc ita, seu eventus credo ex parte. Sanguinis
 Sed ex Diversis nutrimenti Formantur*

*NB. Hoc extra dubium ponetur Si idem
 venenum introitus veais inje-*

things be true, as I believe they will not admit of the least doubt, I beg to be further satisfied, whether a Prudent and Honest Man may safely argue from the *Bloods* of *Brutes* to the *Bloods* of *Men*? Or to speak in other, and perhaps more intelligible Terms, Is any Philosopher or Physician infallibly, nay morally Certain, that whatsoever *Operation* any *Medicine*, whether *Simple* or *Compound*, exerts upon the Blood of a Calf, or a Dog (I chuse to instance in these two, because the one is made use of by the most *Sagacious* *Baglivy*, and the other by the *Ingenious* Mr. *Friend*) the same it will exert upon that of a *Man*? Can I or any one else Conclude, for instance, because such and such a *Medicine*, or *Medicines*, do's Attenuate, and Rarefie, or Thicken, and Coagulate the *Scarlet Fluid Mass*, of either or both these Creatures, that the same *Medicine* or *Medicines* will produce the very same Effects, upon that of a *Rational Animal*? *non* *non*.

I am not insensible, that it may be urged upon me, That though I will not allow the *Blood* of a *Calf*, or such Creatures as live upon *Grass*, or any other Food, which is not agreeable to that where-with *Man* is continually nourished, to be proper *Subjects* to make *Experiments* upon,
yet

yet surely I will not deny, but that the *Blood of Dogs*, who generally feed as their Masters do, as living for the most part upon their Offals that go from their Tables, may be admitted, as not *improper Subjects* for such Inquiries.

To this I answer, That it is true that these *Domestick Animals* are often, but not alway, fed with the Refuse of such Food as Men may and do live upon; but that this is purely *accidental*, and introduced by our fondness for them, and therefore not *Natural*, their Natural Diet being Raw Flesh, and Reaking Blood. Now I much question, and I think justly too, whether any Custom, how long soever continued, be sufficient totally to *Eradicate Nature*; and make it cease to be what it really was *ab Origine*. To this I may further add, That the *Ferment*, that is in the Stomach of a Dog, is so powerful as to dissolve even Bones: unless that effect ought rather to be attributed to a stronger Heat of his Stomach, than that of a Man. However, take it which way you please, it must almost evidently prove, that the Blood of a Dog is not truly Analagous, to that of a Man, by reason it is continually supplied and regenerated, from a *Chyle* which is either impregnated with a stronger *Ferment*,

ment, or produced by a much greater Degree of *Heat*, and probably therefore more exalted, than that of a Man. Further we have just reason to suspect, That the *Blood* of this *Animal* do's in particular abound with much more Bile, than that of a *Man*, if we inspect the *Excrements* of each: for to me, the greatest part of the Bile seems to be intimately mixt with the Blood of Dogs, there being so little of it to be discovered in their *Stercora*, which generally much resemble in *Colour* and *Consistence* those of *Icteric* Persons. Besides in a *Dog*, *insensible Perspiration* (which, according to the accurate *Sanctorius*, is the most plentiful Evacuation in Humane Bodies *in statu Sano*) seems to be totally suppress'd. How the Defect of this continual and plentiful, though unobserved Discharge is supplied, I will not pretend here to determine; but hope it will not be thought extravagant in me, to suppose that the want of it must strangely alter the Nature and Disposition of a Dog's Blood, from that of a Man (though we should grant it to be daily renewed by *Chyle*, of the very same Nature with that of Men;) it being denied by none, that I know of, That a Defect of insensible Perspiration in Men is capable of so far altering the *Crafsis* of the *Blood*, as to pro-

produce violent Diseases. But to put it out of all manner of doubt, and to leave no room for Evasion. That there is a *Great and Real Discrepancy* between the *Humours*, and by consequence between the *Bloods* of these two Creatures, I need only appeal to the *Rabies of Dogs*; the *Saliva* of whom thus distempered, especially if it be communicated to the Blood, though through the smallest Wounds; or conveyed through the *Genus* of the *Membranes* to the *Brain*, or *Meninges* (if we may believe Creditable Authors) is capable of exciting such stupendous Symptomes, in all sorts of *Animals*, and particularly *Men*. ¶ Now if this did not proceed from a *peculiar Disposition* of *Humours* irritated, I see no reason to doubt, why the *Furor of Men* should not be apt to run out into such extraordinary *Phanomena*, as well when it did not succeed the Biting of a *Mad Dog*, as when it did.

If therefore no certain Inferences can be drawn from Experiments made upon such *improper Subjects*, of what real *Use* and *Advantage* can they be, towards the *Improvement* of *Physick*, especially in the *Praxis* of it?

How non admodum mirabile. Nam sicut Canes ut
 dentibus illos homines ut naturaliter est
 pugnae feruntur. nec quisquam. What
 ad hoc qd. sic utrum. Hic. Hic. Saliva
 infecta. sanguini. praecipue p. vulnus
 in illo minus delebitur. Sic. Exprimere
 non solet.

What I have already insisted on, will, I doubt not with any unprejudiced, considering Person, sufficiently prove the *Impropriety* of the *Subjects* herein made use of, and by consequence the *Unprofitableness* of this *second Way*, of endeavouring to satisfy our selves about the *Natures* of *Remedies*, and about their *Genuine Operations*, in the *Curing* those *Diseases*, to which the Bodies of Men are so Obnoxious. And in truth I cannot but think, if I had nothing further to add, that what I have already urged, is more than enough to evince the *Vanity* of hoping rightly to inform our *Judgments*, in these particulars, by managing our *Enquiries* in these *Methods*: But that I may further confirm my Assertion, I shall in the next place endeavour to prove, that these *Experiments*, were they not faulty upon Account of their *Subjects*, are not duly made, and therefore are far from being capable of giving an intire *Satisfaction*.

The Truth of this seeming Paradox, I doubt not, will evidently appear to any one, who will but allow himself calmly to consider, either how improper for the ends aimed at, the *Places*, or *Canals* are, which are made choice of for the immediate conveying the *Medicine* into the Mass of *Blood*;

or how little the said *Medicines* are previously prepared for such an *Introumission*: Or lastly, how little regard is generally had to the Dosing of the *Medicines* so introumitted, into the *Veins*. All which three Considerations I shall treat of joyntly, in one continued Thread of Discourse, as they shall fall in my way, without troubling my self regularly to subdivide upon them, and to speak of them separately under distinct Heads.

As to the *Places* or *Canals*, wherein to these *Medicines* are injected, they are some large *Veins*, which for the Conveniency of the Operation, lie near the Habit of the Body: generally the *Jugular*, and sometime the *Crural*. Now the *Veins* being by the All-wise Creator solely designed for *Canals*, for conveying the *Blood* in its *Reflux* to the Heart, I can by no means think them fitted for the receiving immediately into their Capacities, *Crude Medicines*. For the more fully proving this, it will not be amiss briefly to consider the Nature, both of the *Blood* repassing through these Vessels, and of the *Medicines* directly injected into them, by them who are curious in making this sort of *Experiments*.

As to the Nature of the *Blood*, I take it for granted, that whatever the several

Constituent Parts of it may be, separately considered, yet that the Mixture of them altogether in their due Proportions, produce something so Balsamick and agreeable, as is not capable of irritating the *Tunicks* of the *Veins*, or at least no more than may be necessary gently to assist its *Circulation*.

As to the Natures of the *Medicines* injected, it would be endless to enter into a particular Consideration of every one of them singly, which generally are or may be made use of in this Method of *Experimentizing*: Nor is it any ways necessary to be exceeding nice in this particular, it being sufficient for my present purpose, to remark in general, that they are far from being of the Nature of the Blood: And indeed if they were not, they could not *Act upon* and *Alter* the Blood. But this I may add, that those which are for the most part made use of in this kind of Procedure, are for the most part *Acid* or *Acrimonious*, or otherwise pretty *active* in their *Faculties*.

This, which is all I require, being granted, I crave leave to propose some Queries. Can the *Veins* be proper *Receptacles* for *Medicines Crude*, and *Sincere*? Will they not, by the Intromission of such disagreeable

Guests, be prodigiously *Irritated*, if they are capable of any *Sensation*? Or if they are not, must they not at the least be vastly extended, beyond their due Bulk, by the Addition of the quantity of the injected *Medicine*, to the quantity of the already contained *Blood*, even though no *Fermentation*, or *Ebullition* should attend their Mixture, which is scarce to be imagined? When the *Medicine* injected in, and the *Blood* injected into, consist of such differing Principles; May not the *Convulsions*, which generally succeed Experiments, be produced by some *Miasmata*, elevated by the *Fermentations*, occasioned by the *Lucta* of the *Medicines*, and the *Blood* convey'd through the pores or *Fibres* of the *Veins*, directly to the nearest *Nerves*, and *Membranous Propagines*, communicated from them immediately to the *Brain*, and its *Meninges*, the *Fountains* of them, and from thence transmitted to the whole *Systemes* of *Nerves*, *Membranes* and *Muscles*?

If any shall suspect the Probability of this Notion, I shall in Confirmation of it refer him for further Satisfaction, to Experiment I. in the deservedly Celebrated Baglivi's Dissertation, *De usu & abusu Vesicantium*, Cap. 1. Where he will find the Cadaver of a Dog, into whose Jugular the Tincture

Cure of *Cantharides* had been injected, being
 opened, that part of the Neck, where the
 Experiment had been try'd (the Solids
 there no doubt were sufficiently guarded,
 from any Immediate Contact of the Me-
 dicine injected, by the intervention of the
 Pipe of the *Syphon*) was *Sphacelated*, and
 stank. The like effect (as may be seen,
 Page the 268th of the pretended *London*
Edition in 12°, 1703. of his *Specimen de Fi-*
brâ Motrice & Morbosa, and in Page the
 465th of his *Works*, printed at *Lyons*, in
 4°, 1704.) did succeed the injection of a
 due quantity of *Sp. Vitriol* (but what that
 due quantity was, the Learned Author has
 not thought fit to inform us) into the left
Jugular of a Dog likewise. And here by
 the way, upon comparing these two Experi-
 ments together, I cannot forbear drawing
 this one Corollary, That *Medicines* either
 highly *Acid* or highly *Alkalizate* (though
 they are thought to differ from each other
 as much as Light from Darkness) upon
 Injection may affect the Solids alike, at
 least to appearance. Now if the Injection
 of either of these Medicines, though so dif-
 ferent, shall I say, or rather contrary in
 their Natures, and usual *Operations*, was
 capable of producing so visible a *Mortifica-*
tion in the whole neighbouring part, among

the *Muscles*, why should it be thought altogether unreasonable to suppose, that the Injection of other *active Remedies*, by affecting the nearest *Nerves* and *Membranes*, which are indued with a more *Exquisite Sensation*, may be capable of producing *Convulsions*? ^{when they might happen, or apply by} ~~you were wound~~ ^{without a design}

That the foregoing Queries are not groundless Surmises, I believe will soon appear to any, who shall with me consider, That *Medicines*, exhibited with design to correct, and amend the disordered *Fluids*, are generally given inwardly at the Mouth, and there too, when very *Active*, not *Sincere*, but duly *Dilated*, or otherwise *Corrected*: After which they undergo many *Mixtures*, *Elaborations*, further *Dilutions*, and as I may say, *Dulcifications* in the *Stomach*, *Intestines*, *Vasa Lactea*, &c. by which several *Modifications* the *Activity* of their *Constituent* and *Operating Particles*, are much impeded and smoothed, before they arrive at the *Blood-Vessels*: By which several *Alterations* they are rendered less dangerous, and more fit to be received there, as being less capable to excite any violent *Ebullitions* in the *Blood*, or to irritate violently the tender *Vessels*. Besides they are admitted there, even thus dulcified, by little and little, and not in a full Stream, where-

whereby the Blood is enabled to keep under the *Exorbitancies*, that 'tis probable the Reception of them all at once into it, might occasion; and whereby also the *Vessels* themselves are secured, from being too vehemently assaulted, by the Active Particles of the *Medicine*. Whereas in the *Method* of the *Experimenta Infusoria*, the *Sharpest* and most *Acrimonious Remedies* are frequently *injected*, immediately into the *Blood Vessels*, although before sufficiently distended by the *Blood* it self, and *injected* even without the least *Dilution*; and in *Doses* too so extravagantly large, that if they were given by the Mouth, they would be of *Per-nicious Consequence*. Can any, who have not absolutely given up their Reason, imagine such *Experiments* as these, duly *Circumstantiated* to satisfy an *Inquisitive Person*? Can any, who will allow themselves seriously to reflect upon the Nature of the Veins, so much as dream those tender *Vasa* are fit for the immediate Reception of *Medicines* consisting of Particles so vastly differing from the *Crafsis* of the *Blood*, and endued with such *Corrosive Qualities*, and by consequence so unsuitable to them, as the generality of those employed upon these Occasions are? Or if we consider only the *Crafsis* of the *Blood*, can any who reflect how *Bal-*

Samick it is, judge it proper, upon any pretence, directly to throw into it things of so vastly different *Natures*; especially when he shall recollect, that things much nearer related (*ex. gr. Sp. and Ol. Vitrioli*, though both drawn from the same *Concrete*, and differing perhaps only in degree of *Acidity*) will not admit of a Mixture together, without at least an *Efferescence*? If this be true, what violent *Commutations*, must any seriously thinking Man suspect, are likely to be produced by the Confusion of Substances so *Heterogeneous* as *Blood* and *Remedies*, (and the Latter, it may be of the most *Active* that can be pick'd out) not only *undiluted*, and *uncorrected*, but often also in *Prodigious Doses* too? Surely such *Experiments*, as these, can afford no certain Rules for establishing a *Solid* and *Useful Practice*, and must leave *Medicine*, in as dubious a State as ever they found it, if not a worse.

The Truth of what I here assert, will, I doubt not, more evidently appear, if we make but just Remarks, upon some of the *Experiments*, which the *Great Baglivi*, and the *Ingenious Friend*, have thought fit to communicate to us.

If we compare the *Second* and *Third Experiments* in the deservedly *Celebrated Baglivi's Book, de Praxi Medica, &c.* (Page the

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the 104th of the *Dissertations* in the *Leyden* Edition in 12°, 1700. and Page 614th of his *Works* Printed in 4° at *Lyons*, 1704) we shall soon see Reason to be satisfied, that the *Injection* of the very same Medicine, and in the very same quantity too, into the Veins, do's not always produce the very same *Effects*, in the Blood. I shall not trouble the *Learned Reader* with the Transcript of the Original, but refer him to the places cited: and for those Readers who may not understand the *Latin* Tongue, I shall refer 'em to the Correspondent places in the *English* Translation lately published.

In the former of these he will find, that after *Injection* of two ounces of *Rectified Spirit of Wine*, into the right *Crural* of a *Dog*, there only hapned an Universal shivering for half a quarter of an hour; then the *Dog* pissed plentifully, and after that grew perfectly well. In the other, upon *Injecting* the like quantity, of the like *Spirit*, into the right *Jugular* of a *Dog*, the Lamp of Life was as it were in a moment totally extinguish'd, without any previous violent Symptom, that we hear of. In the former, after twelve days Health, the *Dog* being accidentally killed, nothing upon opening was found Amiss. In the latter, after immediate

mediate Suffocation (as I may call it) by the Experiment, the *Blood* in the Lungs was found very grumous, and coagulated. Can there well be imagined more disagreeing Events, from the Injection of the same quantity, viz. two ounces of the same Liquor, viz. *Rectified Spirit of Wine*, into the *Circulating Blood*? And yet these are judged the most proper ways to satisfy our Enquiries after the *Certain Operations of Medicines*, upon the *Fluids*; but how poorly they do it, let the Ingenious, after due Consideration, determine.

I will not conceal, that the *Sagacious Baglivy*, sufficiently sensible of the little Harmony between these two Experiments, does in the subsequent *Corollary*, endeavour to account for their different Successes, by supposing, that in the one Case the *Spirit of Wine*, being infus'd into that great Ocean of the *Blood*, collected in the Lungs, might by coagulating it, procure immediate Death: Whereas in the other Case, it being infus'd into a little Rivulet, the *Blood* by its rapid Motion, (there being no stop there, as in the Lungs) did enervate and destroy the *Coagulating Force* of the *Spirit of Wine*. In this short Representation, I hope I have done no Injury to the great Author's *Argument*, and yet I must freely

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freely confess, that to me it seems a little unintelligible, why a like quantity of *Spirit of Wine*, should exert its *Force* more violently in the great Ocean of the Lungs, (tho' some are at loss, how through the *Jugular* it should immediately fall into the Lungs) than in a little Rivulet in the Thigh. A Gush of Water, sufficient to make a small Brook overflow its Banks, if discharged into the Sea, would not in the least visible degree increase its Bulk: Or rather, to carry the Allusion somewhat nearer to the Matter in Question, a Damm, sufficient to have stopt a small Current, must easily have been swallow'd up, or wash'd away by the Main Ocean. But suppose the above-mention'd Conjecture never so Reasonable, it would have prov'd much more satisfactory to the World, had the *Indefatigable Baglivi* confirm'd his Notion, by many reiterated *Experiments* of the like kind, alike succeeding: A single instance or two not being to be relied upon, in things of this Nature; where we ought not to content our selves with Probability, any thing almost inferiour to Certainty; because gross *Mistakes* in *Theory*, if we be too much bias'd by them, may lead us into *Pernicious Errors* in *Practice*. Perhaps one of the different *Events* here specif'd,

might

might be purely *Accidental*, or perhaps it rather might proceed from differing *Dispositions*, in each of those Bloods. But this being as purely *Conjectural*, if not more, as that Notion of the Celebrated Author now discuss'd, I leave it to be treated only as a not improbable *Opinion*, till Time or Experience may evince the Truth or Falshood of it.

More Remarks I might make upon others of this Great Authors *Experiments*, (which I must freely own are to me by far the most unsatisfactory parts of his *Writings*) but having spent so much time already upon these two aforementioned, which to outward appearance, so violently combat each other, I shall for the further Confirmation of what I have asserted, (*viz. That we cannot safely draw any Practical Inferences from such Experiments*) betake myself to the Consideration of only one more of this sort, Communicated by the Ingenious Mr. Friend, in Chapter the 54th. of his *Emmenologia*. It is the 5th of those *Experiments*, which were made by *Injecting Emmenagoges* immediately into the Blood-Vessels.

There we shall find, that upon Injecting an Ounce and half of a strong *Decoction* of the *Peruvian Bark*, into the *Jagular* of

a Dog, (whether great or small he does not tell us) after a quarter of an Hour, the Dog was seiz'd with a strong and frequent *Pulsation* of the Heart, and then with frequent *Convulsions*; and upon the *Injection* of half an Ounce or more of the said *Decoction*, the poor Dog died universally Convuls'd. Would it not appear a strange kind of Argumentation to an illiterate Person, to say, that two Ounces of a strong *Decoction* of the *Indian Bark*, thrown at twice into the *Jugular* of a *Dog*, made him dye Universally Convuls'd, and therefore a *Man* may, upon a just Occasion, take four times as much at a time, by the Mouth, and that more than once in a day, with Safety, nay Advantage? And yet so the Argument must stand to agree with Truth and Experience: Unless any Malicious Mind should doubt of the Ingenious Author's *Veracity*: Which, for my part, I neither can, nor will. I cannot but own, that the Author is very Candid in so freely Imparting this *Experiment*; but withall must add, that it carries in my apprehension, so very little Satisfaction with it, that I cannot withal forbear declaring, that, were I intimately acquainted with him, I should think my self obliged to caution him from Publishing any more for the future, for
fear

I fear either of giving Occasion to the Un-
 earned, (should any for the common good
 Translate his Writings into *Engliſh*, as
 the Custom of late has been) to call his
 own *Integrity* into Question: Or of Ex-
 posing the whole *Faculty* to *Contempt*, for
 inſiſting upon ſuch inſignificant *Experiments*,
 and thinking from thence to draw any
Uſeful Concluſions.

Perhaps it may be urged, that I am much
 too ſevere in my *Animadverſions* upon this,
 and the other forecited *Experiments*, ſince
 the only Design of this Inquiſitive Au-
 thor, in theſe and the reſt, is only profes-
 ſedly to evince to the World, that thoſe
Medicines, which promote the *Menſes*, do all
Attenuate, and that thoſe which check them
 do all *Coagulate* the *Blood*. I readily ac-
 knowledge, theſe to be the Propositions
 primarily and mainly intended to be *De-*
monſtrated: But then I think that the
Scholia, I have thereunto added, and the
Corrollaries I have thence deduced, are na-
 tural, eaſie, and no ways ſtrained. And as
 ſuch only I mean them, without the leaſt
 Design of Maliciouſly Reflecting upon, and
 Detracting from the Real Worth of this
 Author, who, as he has never injured me,
 is ſo much above my Match.

Before

Before I wholly quit this Topick, I must beg leave to ask a few more Questions of both those afore-cited Authors. Were those *Experiments* made upon or in the *Bloods*, whether *Extravasated* or *Circulating*, of Sound or Morbid Animals? If it be answered upon the the *Bloods* of Healthy *Animals*, (tho' perhaps that may be more than we can be certain of) I must again ask, what *Practical Inferences* (even supposing all that I have already insisted on were void of any force) can be drawn therefrom? Are we sure that the *Operations* of *Medicines* will be the same, upon *healthy*, and upon any, much more upon all sorts of, *Morbid Blood*? Nay have we not Reason, at least to suspect, that they would be vastly different? If on the Contrary it shall be own'd, that the *Experiments* were try'd upon *Diseased Bloods*, I cannot but demand, whether the *Experimentors* took sufficient Care accurately to inform themselves, what the several peculiar *Dyscrasies* of each particular *Blood* was? For without this due Caution, I fear that all *Experiments* of these sorts, how numerous, nay how agreeing so ever they may be, will prove but *Lame*: and if they were so accurate in their *Enquiries*, I am sorry they were so unkind to us, as to keep

keep us wholly in the Dark, as to those so *material Particulars*, by not communicating to us exactly those *Observations*; without a due insight into which, it will be difficult, if not absolutely impossible, if I apprehend things aright, to pass a true Judgment. For to speak my present Sentiments freely, I am apt to believe, that the Effects of the very same *Medicine* in different *Dyscrasies* of the *Blood*, may be near as *Various* as the *various Dyscrasies* of the said *Blood* may be. At least this is evident past denial, That the same *Medicine* do's not always *operate* alike in *Diseases* seemingly the same, if we may judge of them, by the *Similitude* of *Symptomes*. For confirmation of what I have here asserted, I shall only produce the *Cort. Peruv.* It is well known, that, when *Intermittents* Reign, or to use the Phrase of that most accurate *Observer*, the late deservedly Famous Dr. Sydenham, in the *Intermittent Constitution*, though Fevers seem never so continued, that Noble *Indian Bark*, if carefully chosen, and duly administered, scarce ever fails of working a Cure; and yet what lamentable work do's it make in the *Continued Fevers* of other *Constitutions*, I need not tell.

Now this Discrepancy of *Effects* succeeding the *Exhibitions* of the same *Medicine*,
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or *Medicines*, in seemingly alike Cases, must certainly proceed from the *Discrepancy* of the *Causes* of those seemingly alike *Diseases*. And what *Differences* of *Causes* more probably *assignable*, than *differing Dispositions* in the *Bloods*? On the contrary, from *Similitude* or *Identity* of *Dispositions* in *Bloods*, it must undoubtedly proceed, that the same *Remedy* do's often effectually *Cure Diseases* to outward Appearance, of different *Kinds*. Who would have dreamed of an *Ague* being concealed under the Disguise of a most Violent and Stubborn *Rheumatism*? And yet such have I my self more than once known, after they had baffled all the Methods I could think of, readily yield to the *Bark* abovementioned: as I have also done an Universal *Resolution* of all the *Musculous Parts* of the Body (the *Heart* and *Tongue* only, as far as we could judge, excepted) which has rendered the Patient as incapable either of *Action* or *Motion*, as if he had been chained to his Bed or Chair by the Dead Palsie.

Having thus, according to the Meanness of my Capacity, endeavoured to prove the *Inutility* and *Dissatisfactoriness* of both the above-mentioned *Methods* of *Indagating* the immediate *Operations* of *Remedies*, upon, or rather in the *Fluids*, and especially the *Blood* in humane Bodies; it may now justly be expected,

pected, that I should at least attempt to substitute a better in lieu of them. This indeed, from my very first taking Pen in hand, was the main Design of this *Essay*.

But before I proceed to impart it, I think it necessary to premise, That it is not built upon the sandy Foundation of any *Philosophick Conjecture*, or plausible and probable *Hypothesis*, which perhaps may render it less pleasing to some, who love to be tickled with well contrived *Fancies*: And therefore if any such shall happen to take this little Book into their Hand, or to cast their Eye upon it, I would earnestly beg of them immediately to lay it down again, and not to waste their time in reading that which can afford them little or no Satisfaction. For if they expect to find here great Depths of Learning, or Wise and Elaborate *Disquisitions*, I assure them before-hand, that they will meet with lamentable Disappointments, and thereby it may be Irritated and Exasperated. And yet I am apt to flatter my self with an opinion that to those, who come with an unprejudiced Mind, and who can bear the sight of Truth in a plain and homely Dress, what I have farther to say will not be wholly unacceptable; especially since it is sincerely aim'd at the *Benefit of Mankind* in general.

The *Method*, in few words is this, To begin the *Cures* of all *Diseases*, which proceed from *vicious Fluids*, but more especially

cially from *vicious Bloods*, with extracting so much Blood, as the *Nature* and *Degree* of each *Disease*, will either *require*, or *admit* of; in order rightly to inform our selves, if possible, of the *State* and *Crisis* of the Blood at that time, not only by *viewing* it both Hot and Cold, with the utmost Exactness; but also by calling in, to the Assistance of our *Sight*, such other of our *Senses*, as are capable of being employ'd in these *Enquiries*. Then to proceed to the *Exhibition* of such a *Remedy* or *Remedies*, as shall be judged most proper; and to persist in the Use of them a sufficient *time*, and to give them in due *Doses*: After this, to draw out some more Blood, in order, by examining it with the same Accuracy, to discover what *Alterations*, in *Consistence*, *Colour*, *Taste*, *Smell*, &c. have been produced in the said *Blood*, during the Interval between the foregoing and this latter Bleeding. This Bleeding at due distances, and the Exhibition of proper Remedies, according to the Directions just given, are to be repeated *toties quoties*, as there shall be found Occasion.

If at the time of the second Bleeding, the State of the Patient's Health be considerably bettered, though not perfectly restored, I think that Amendment must in reason be attributed to those *Alterations* produced in the *Blood*, during the Interval be-

tween the two *Bleedings*, by the *Medicine* or *Medicines* exhibited; which *Alterations*, together with the *Medicine* or *Medicines*, exhibited, and the *Manner* and *Dose* they were exhibited in, ought to be remarked, and set down in Writing, with the greatest Exactness possible; both for the Assistance of our frail Memories, and in order to the enabling us with the more Ease, nicely to *collate* the several *States* and *Alterations* of the *Blood*, during the whole Course of a *Distemper*. The accurate *Observations*, and the nice *Collatings* of the *Alterations* thus made, of the several *Observations* produced in the *Crisis* of the *Blood*, in the Intervals of time between these two, or any other subsequent *Bleedings*, will, I am inclined to believe, insensibly let us into as certain a *Knowledge*, as our imperfect Natures are capable of, of the several *Dyscrasies* of the *Blood*, which are either the *immediate Causes* or inseparable *Concomitants* of most of those *Diseases*, which solely owe their *Origins* or *Continuance* to the *Vitiations* of that *Vital Liquor*. And the being thereby likewise made duly sensible what *Medicines* do really most *expeditiously*, most *safely*, and most *effectually correct* those *Dyscrasies*, will encourage a Prudent and Conscientious Physician steadily to stick to the Use of them, and sufficiently caution him from being too hasty in changing

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ing them, but more especially from being so indiscreet, as to alter them for others of a *different*, and much more of a quite *contrary Nature*; what specious Pretences so ever may be offered to induce him thereto.

And if, on the contrary, the Patient be so far from getting ground, by persisting strenuously for some reasonable time in the use of any *Medicine* or *Medicines*, that he really and sensibly goes backward, during the interval between the first or second, or any other subsequent *Bleedings*; I am strongly inclined to believe, that even here a Nice *Observation* of the *Blood*, at each of those *Emissions*, in all its *Circumstances*, of *Consistence*, *Colour*, *Taste*, *Smell*, &c. and a Diligent and Accurate comparing the *Differences* of the said *Bloods*, will sufficiently discover to us those *Errors*, and *Vices*, in the *Bloods*, which at first caused, and afterwards increased the *Distempers* under our Managements; and at the same time lead us, as it were by the hand, to the choice of more proper *Remedies* and *Methods*, for the most *Certain*, most *Safe*, and most *Expeditious Curing* of them, if Curable.

That I may render this *Method* as plain and intelligible, as it is possible, I shall endeavour, by an Instance or two, to set things in a clear Light. In which Instances the Remedies I shall speak of, are look'd upon

to be of undoubted Benefit in their Effects, tho' the true way of their *Operating* in those Cases, are but darkly guess'd at, and not certainly, if at all, known.

Suppose a Person grievously afflicted with an *Autumnal Ague*, should crave my Assistance, and I having this opportunity, should be very desirous to satisfy my self, to the highest degree possible, by what kind of *Operation* in the *Blood*; or in other Words, by what *Alterations* of it, the *Cort. Peruv.* effected a Cure (and by the way perhaps this *Method* may afford opportunities of discovering many more *Specificks*, not only in this, but also in many other *Distempers*, than yet we are Masters of, or than it will be possible, by any other known Proceeding, to find out;) in Prosecution of this *Method*, I would draw out as much *Blood*, as I thought might consist with the Safety of my Patient, and yet might be sufficiently to satisfy my *Enquiries*, (which in the Sequel, I hope to make appear, need be so very little, as not to terrifie the most cautious *Practiser*, from venturing upon it, even in this or any other Case: Provided the Condition of the Patient be not so desperate, as absolutely to discourage a Physician from Attempting any thing for his Relief.) This Blood I would examine with all the Niceness and Accuracy imaginable,

ble, without putting it to the Torture of the Fire, in order to make it discover all, nay more than all its Secrets. By this I mean, that I would not only view it with the utmost Care, that thereby I might Critically observe its *True Consistence*, *Colour*, and whatever else might be discovered by the *Sight*; but also, by holding it while warm close to my *Nose*, endeavour to satisfy my self, whether it had any preternatural *Smell*, and by taking a drop of it before it were cool, upon my Fingers end, and touching my *Tongue* with it, by that means try, if I could find out in it any *Vicious Taste*. Nor would I content my self with Examining the Blood thus nicely, immediately after it was emitted out of the Vein, while it were hot, but in order to make the deepest search into it as possible, and that I may omit nothing, that might tend to afford me any Light and Satisfaction in my *Enquiries*, into the Nature and Condition of it, I would make use of the same *Accuracy* in my *Recherches* into the distinct *States* and *Conditions* of the *Serum* and *Crassamentum*, both as to *Consistence*, *Colour*, *Taste*, *Smell*, &c. after they had, by cooling for a considerable time, perfectly disengag'd themselves from each other. All which things so observ'd, I would faithfully commit to Writing; that so, tho' they

should slip out of my Memory, I might be
 able upon occasion to repair to them for Re-
 information. This done, I would give my
 Patient the *Cortex* in *Doses* large enough,
 and repeat it often enough to effect a *Cure*;
 nay, in order to prevent any Inconvenience,
 by his second Bleeding, I would continue
 (if he would permit it) the Use of it ra-
 ther something longer, than might other-
 wise be absolutely necessary. After this I
 would proceed to have some *Blood* a second
 time extracted from him; which Blood I
 would examine, with the same *Circumspecti-*
on in all Respects, which I propos'd to be
 made use of, in the Examination of that ta-
 ken at the first, and then *collate* nicely to-
 gether the particulars in both *Observations*.
 Upon comparing accurately these two se-
 veral Observations, according to my pre-
 sent Apprehensions, it seems not altogether
 impossible, nay, I cannot but judge it high-
 ly Probable, that I may be able, in some
 measure, to inform my self satisfactorily,
 of the *Dyscrasie* or *Dyscrasies* of the *Blood*,
 which produced the abovemention'd *Ague*,
 and by what *Alterations* of the *Blood*, the
Cortex did actually effect the *Cure*. But it
 must be acknowledg'd, that tho' a nice *Ob-*
servation of the different *States* of the *Blood*,
 as to *Consistence*, *Colour*, *Taste*, *Smell*, &c. above
 hinted at, at the times of the first and se-
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cond, or any other subsequent Extraction, may serve to give us a tolerable guess at the *Cause* or *Causes* of the said *Ague* (or of any other Distemper, in which the said Method shall be carefully prosecuted) and perhaps a much better, than by any other way hitherto recommended, even at the very first Tryal; yet in order to fix any certain *Idea's*, I mean such as may be safely relied on, of the true *Causes* of any Disease, it will be necessary to *collate* thus, the *Histories* of several Cases of the like kind, with all the Care and Exactness we can, before we proceed positively to determine, that such and such are the true *Causes* of the said Disease, for fear of being otherwise, for want of due *Caution*, led into manifest *Errors* in our Notions, or rather Opinions, both concerning the *Causes* of the said *Disease*, and the *Operations* of a *Medicine* or *Medicines*, in the Cure of it; which the Principal *Design*, of the *Method* here propos'd, is to prevent.

Let us suppose again, that a *Greensickness*, *Hysterick*, *Hypochondriack*, or any other *Case*, wherein I should judge *Steel* would be serviceable, should come under my Management. Here I would first Bleed as before, and regulate my self with the same *Niceness* in the Examination of this first extracted Blood, as in the Instance before
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insisted on ; then, after due Purgation, proceed to an uninterrupted Course of *Steel*, for a Month, six Weeks or longer ; then I would take Blood away a second time ; in the Examination of which Blood, I would proceed with the same *Niceness* as before, that so I might, by *Collating* both *Observations*, inform my self (if possible, as I believe it is) by what *Alterations* therein effected, the Benefit had been procured to the Patient ; tho' I much doubt, whether our *Enquiries* here, would run on so smoothly as in the last named Case ; because the *Solids* here *acting* so large a part in the *Tragedy*, we ought in our Searches not only to have an Eye to the *Dyscrasies* of the *Blood*, but also to the *Atonia* of the said *Solids*. And therefore, in all *Inquisitions* into *Diseases*, wherein the *Solids* as well as the *Fluids* are affected, we ought with the utmost *Accuracy* we are capable of, to observe, how each act upon the other, or else we shall too often be led into Errors, by being inclined to attribute those *Alterations*, which we find wrought in the *Blood*, to the *Operation* of the *Remedies* exhibited ; and sometimes also to mistake those for *Vices* essentially *Inherent* in the said *Blood*, which perhaps are in reality nothing but the *Products* of the *Tension*, *Crispation*, *Oscillation*, *Relaxation*,

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laxation, or some other *Affection* of the *Solids*.

The like *Method* may be us'd for the Discovery of the Operation of any other Simple Remedy, (whether *Purgative* or *Alterative*) nay, of two or more combined together: Provided they are persisted in long enough, given in *Doses* large enough, and repeated often enough, to make any perceivable *Alterations* in the Mass of Blood, during the Intervals, between Bleeding and Bleeding.

But here I cannot forbear freely to own my self, to be sincerely of the Opinion, that the less Compounded our Prescriptions are, the sooner we shall arrive at a Compleat, and thorough Knowledge of the *Natures* and Operations of *Remedies*, at least of so many of them, as shall be Necessary for Common Use. The Reasons inducing me to be of this Opinion, I have already insisted upon, among the *Causes* assigned for the so small Improvement of Physick hitherto, and therefore shall not again trouble the Reader with them, in this Place.

Thus I have, within the Compass of not many Lines, both hinted at, and in some sort exemplif'd, a METHOD, for *Investigating Clearly and Satisfactorily* the *Immediate and Genuine Operations*, of *Remedies* Internally
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exhibited, for the *Curing* of all *Diseases*, proceeding from the several *Vitiations*, of the most considerable in all Respects of all the *Fluids* in Humane Bodies, *viz.* the Blood.

Perhaps it may not sound well, to some Nice Ears, to call the Blood the most considerable of all the Fluids ; but if we reflect upon the Proportion, that it bears to all the rest, as to quantity, and that it is the Source and Fountain of them all ; I hope the Character may be at least Excusable. This Method, according to my present Apprehensions, may deserve some *Encouragement* ; as well upon account of the fair Prospect it affords, not only of satisfactorily *discovering*, as I have already mention'd, the *Operation* of *Medicines* , but also of as satisfactorily *ascertaining* to us the True *Causes* of *Diseases*, which take their Rise from the several *Peccancies* of the *Blood* ; as also upon account of its being *Safe* and *Easie*, more *Natural*, and liable to fewer Objections, than those I have oppugned ; because the *Experiments* hereby to be made, are exercis'd upon more *Proper Subjects* ; do more undeniably manifest the *Force* and *Power* of *Medicines*, tho' not so expeditiously : And lastly, are not attended with any Barbarous Circumstances, either in the Procedure, or in the Events. This will require no Innocent Animals to be Tortured,

tured, much less cruelly murdered, (a Practice scarce consistent with the Profession of *Christianity*, especially if we reflect to what little purpose 'tis used) in order to satisfy our Curiosities. The *Experiments* here made, will all be tryed upon the *Blood* alone of *Men* ; and of them too most seasonably, *viz.* when labouring under *Morbid States*, and even then agreeably to the Rules of *Art* and with a manifest Tendency to the actual promoting the *Practice* of *Physick*. For these *Experiments*, if I am not grossly mistaken, will afford us real *Satisfaction* ; and by a necessary Consequence, if duly prosecuted, lead us to certain and effectual *Methods* of Practice, at least in those *Diseases*, which are the *Products* of *Morbid Bloods* : because it is more than probable, that these *Experiments* will give some insight, into the *Natures* and *Kinds* of the several *Diseases* of the Blood ; and inform us at the same time rightly, how to correct them by proper Remedies.

Although in exposing to the publick View the *Method* by me excogitated, it was scarce possible, had it been adviseable, to avoid hinting at some of the Advantages, which may, I think, not unjustly be expected from the strenuously putting it in Practice ; yet being fully sensible, how much Opposition a *Proposal* of this Nature, may be like to meet

meet with, if for no other Reason, yet upon Account of the *Novelty* of it; that I may, as much as in me lies, remove out of the way all Rubs, that may hinder its kind Reception in the World, I think my self obliged further to enlarge upon some of those Hints, which I have already offered, as also to take notice of some other *Benefits*, likely to arise therefrom: Afterwards to obviate and answer all those *Objections*, which I either apprehend may be raised, or which I have already received against it: And lastly, to conclude all with some necessary *Rules* and *Cautions*, for the due Management of our selves in the making *Observations* by it; that so we may not be disappointed in our Expectations. And if I can, in any tolerable Degree, make it out, that the *Advantages* likely to accrue from this *Method*, are many; And that the *Objections* against it, are far from being insuperable: And if I can moreover offer at such *Rules* and *Cautions*, as, if they are strictly observed, may, in no long Process of time, tend to the no small Improvement of *Medicine*, both in *Theory* and *Praxis*; I think no Offence ought to be taken, either at the *Novelty* it self of the *Method* proposed, or at the *Meanness* of the *Proposer*; since the most *useful Inventions* had a time, when they were first discovered,
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and were then liable to the same imputation of *Novelty*; and since even many of them were discovered by very unlikely Persons.

As to the *Benefits* likely to accrue to *Medicine*, from the *Method* already laid down, if vigorously and strictly prosecuted, though I have already briefly hinted at them in general, yet I think it will not be improper in this place, to treat of them more largely, and more distinctly; that so I may the more effectually recommend the said *Method*, to the *Consideration* and *Practice* of others. But before I proceed to this, I think it necessary to beg the Candid Reader's pardon, if I shall at any time hereafter, either through Incautioufness, or Forgetfulness, happen to make use of either the same Expressions, or the same Turn of Thoughts, which I may beforehand have used; as I fear that I may sometimes be unadvisedly too apt to do.

I. An *Examination* of the *Blood* first *Extracted*, thus made with all the *Niceness* and *Accuracy* above-mentioned, may serve to give us something of a *clearer Idea*, of the *Nature* and *Kind* of the peculiar *Dyscrasie* or *Dyscrasies* of the *Blood*, then remaining in the Body, than can with any shew of Reason be hoped for, from any *Hypothesis* whatsoever;

soever; which, as I have, I hope, already proved, being purely Conjectural, may create in the Mind of a prudent Man, frequent Doubts, whether he may not, nay whether he actually do's not, often embrace *Falshood* instead of *Truth*, and always bare *Probability* instead of real *Certainty*. In this way of Procedure, our *Eyes* will sufficiently inform us, of the true *Colour*, and *Consistence*, of the *Blood*: Whether it be *Inflamed*, *Putrid*, too *Thick* or *Thin*; that is, whether the *Crasamentum* be too much or too little for the *Serum*; and whether it be *Compact*, or *Lax* and *Broken*; or whether it be so light, as to swim near the *Surface* of the *Serum*; or so heavy, as to subside to the bottom; and whether the *Serum* be thin and transparent, or thick, glutinous, or muddy. Our *Taste* will satisfy us, whether *Salt*, *Bitter*, *Sweet*, *Acid*, *Acrimonious*, or the like, is *predominant* and *peccant* in it. Our *Smell* will teach us, what *vicious Odours* it may be affected and infected with, and our very *Feeling* will discover to us, if it be too *Clammy* and *Mucilaginous*, too *Oily* and *Slippery*, or too *Aqueous* and *Thin*. Can it be doubted, but that these, or such like Testimonies of our *Senses*, may be of high use to us, in directing us in the *Choice* of *Remedies* proper to correct the *Vices*, we have thus found out? And will not the same *Accuracy* in
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Examining at the *Second, Third*, or any other subsequent *Bleeding*, satisfy us whether the *Courses* or *Remedies* we have used, have arrived at the ends aim'd at, if we are not over negligent in Comparing the different *States* of the *Symptomes*, as well as the different *Consistences* and *Textures* of the *Blood*, at the different times of Bleeding. It must be owned that our *Enquiries* into these Affairs, would run on much more smoothly, were we previously sufficiently furnish'd with a true *Idea*, how the *Blood* in *Statu Sano* is really Constituted: But this seems yet a *Desiderandum in Medicinâ*: for, in all the Authors I have hitherto consulted, it is passed over with that profound Silence, as if it were a Matter in which we Physicians were not in the least concerned, or else as if it were as clear as the Sun at Noon-day. But though we are *à Priori* as yet destitute of a true or tolerable Notion of this so necessary a *Præcognoscendum*, may we not, by the Means here proposed, hope in time *à Posteriori* to attain as perfect a Knowledge, as is proportionate to the Shallowness of our *Intellects*, in this imperfect State, of the *several Healthy States* of the Blood? I call them *States*, as believing they are more than one, for otherwise I can scarce apprehend, how Persons of such different

Constitutions, and Tempers, could enjoy such tolerable degrees of Health, and such uninterrupted freedom from Sickness, and visible Indispositions, as common Experience does every day shew us they do.

II. Since it is not altogether Unreasonable with the Antients to suspect, that the *Exaltations* and *Predominancies* of some *Peculiar Taste*, has a great, if not the greatest share in the Production of most *Acute Distempers*; I see no Reason to fear, but that a *Nice* and *Accurate Prosecution* of this *Method*, may, by discovering distinctly to us, what kind of *Relish* does *Viciously* exceed in each particular *Fever*, lead us, as it were by the Hand, to Cure every one of them *Specifically* and directly, without the Tedious, and oftentimes Dangerous (because Debilitating) Processes of *Evacuations*, which sometimes (though seemingly necessary, in order either to abate the *Ebullition* of the *Blood*, or something to empty the *Vessels*; or lastly to discharge the *Saburra* produced by, or accompanying, the *Disease*) lay the Foundations of Subsequent *Diseases*, at the long run every whit as Pernicious, as those the said *Evacuations* were design'd to remove. I cannot but assert, that to me it seems highly probable, if not next to certain, that could we but attain

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a right and distinct Notion of the several Dyscrasies, producing those *Diseases*, which proceed only from *Vicious Bloods*, and were we possess'd likewise of a thorough Knowledge, of the *Powers* of all *Medicines*, (both which the *Method* here propos'd, is likely by degrees, sufficiently to inform us in) I say, were we fully instructed in both these Particulars, it would be no difficult matter so to adapt *Remedies*, to the *Natures* of most *Diseases*, as easily and safely to Cure them, especially if timely taken, without any sensible *Evacuation*, that is *Specifically*. By which Term *Specifically*, if I rightly apprehend the Sense of it, is meant the restoring a Sick Person to a Healthy State, by *Correcting*, not by Discharging those *Vicious Humours*, which are the *Causes* of his *Illness*. And in Truth where that can be Effected, it seems to me to be the most Natural and Easie way of *Curing*, (especially as I have already hinted, if made use of at the very first Insult of the Disease ; that is, before the said Disease, has by long continuance produced, and laid up abundance of *Ill-Humours* in the Body, which must of Necessity require a *Discharge*) and would save a great deal of Pains, and Trouble, both to the Patient and Physician.

Whether it will by the Critical Inspectors be thought, properly placed or no,

I am not much concern'd: But however I cannot here forbear declaring, that I am very inclineable to believe, that, by this *Method*, we may in time be fully and clearly satisfi'd, that those most *useful Practical Notions*, (for so I must term them, as having from them often receiv'd Advantageous Directions, in the Management of myself as to the *Curing of Diseases*) of that *Late Ornament of his Age and Country, the Deservedly Famous Dr. STDENHAM*, were no *Chimera*, no where existing but in his own Brain, as some seem fondly to have imagin'd, and as others have not stuck in their Expressions to affirm, viz. *That most Diseases have proper Constitutions, in which they may be said to Flourish: That when the Constitution agreeable to any Epidemick Distemper, has spent it self, it gives way to another Constitution, more favourable to another sort of Epidemick Distemper; and so on, one Constitution constantly succeeding to another; but whether in a continued or interrupted Order, cannot yet be nicely determin'd: And lastly, That most Diseases in a Constitution, do actually partake somewhat of the Nature of the Regnant Disease: I say, that I am very inclineable to believe, that all these Practical Notions may in time, by this Method, be prov'd Solid Truths. For I can scarce doubt but it will, by Experience so gain'd, be found,*

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that in those *Constitutions*, wherein any one *Distemper* becomes *Epidemick*, that whatever it be, which produces that *Distemper*, whether a *Malignant Position* of the Heavens, or the *Approach* of a *Comet*, as some *Fansie*, or an *Infection* either generated in the *Air* of any Country, by the unseasonableness of the Weather, or else brought thither, from other parts by *Winds* : Or rather lastly, some *Mineral Morbifick Miasma* evaporating, or exhaled, from the *Caverns* of the *Earth* ; that whatever, I say, it be that produces that said *Distemper*, in those that are Afflicted with it, and a tendency towards it, in all others inhabiting the same *Region*, that it effects it, either by disposing the Bloods of all Men in general to *one peculiar sort or Species of Dyscrasie*, tho' in some to an higher, to other to a lower Degree, or else by alike *Affecting* the *Solids*, tho' not in an equal Measure, or lastly by *Both*. But this being purely *Conjectural*, how well grounded soever, shall no longer be insisted on by me, who have more than once in this Essay, declared my self no Friend to *Hypotheses* ; and therefore I shall wholly leave to *Time* and *Experience* to determine the *Truth* or *Falshood* of it.

And here, before I proceed any further, I cannot likewise forbear adding, that

seeing Experience do's plainly, and undeniably, discover, That *Distempers* to outward Appearance extremely *alike*, may, and in reality oftentimes do proceed from different *Dyscrasies* of the *Blood*, and therefore require different *Methods*, and different *Remedies*, for their Cures: And that *Diseases* as widely distant from each other in aspect, as can well be imagined, may, and do sometimes, take their *Origins*, from the very same kinds of *Indispositions* in the *Blood*, (both which I have before insisted on) this ought sufficiently to Caution us, from being misled by a General and Cursory View of *Symptomes*, and to incite us to the most diligent Endeavours by this, or some better way, accurately to discover in all Cases coming under our Cognizance, how the *Blood* actually stands affected; that so we may be capacitated to do the greatest Service possible to our Patients, and not by Mistakes, committed through want of due Attention, to run them into any Real Danger or Inconvenience. And this we shall be better qualified for, by trusting to the Evidences of our *Senses*, than by giving our selves blindfold up to the Conduct of *Fancy*, *Imagination* and *Conjecture*, as I hope hereafter satisfactorily to demonstrate.

III. And

III. And since most, if not all, *Chronick Cases* are thought, and perhaps justly too, to arise from peculiar kinds of Indigestions deposited upon, or otherwise affecting either some of the Parts, or else the whole *Systeme* of the Body, we may hope in time, by attaining, through the assistance of this Method, a more Perfect Knowledge of every particular *Specifick Indigestion* (each of which must of necessity produce a particular *specifick Dyscrasie* in the Blood) to arrive at a more certain and satisfactory Knowledge, of the several Causes of all the said *Chronick Cases*; and thereby be directed to a more certain and more effectual Cure of them, than by aiming at only Correcting *Indigestion* in general, without having any due Regard to the peculiar *Species* of Indigestion, either producing, or accompanying each distinct sort of *Chronick Cases* in particular. And perhaps by being rendered timely sensible of the least Tendencies in the Blood toward the being infected, by any of those *Indigestions*, and by consequence of the very first beginnings of them, we may be capacitated to cut off those *Chronick Diseases* while they are only *in Fieri*, as the Schools love to term it, or according to the Common Phrase, in the very Bud; which, if it can be effected, will

be much more easie to the Patient, as well as safer, and therefore more desirable than the *Exstriating* them, after they are grown to such an heighth, and so deeply radicalled, as almost to bid Defiance to our best Endeavours.

IV. By this means likewise we may hope in time fully to inform our selves, of the *True* and *immediate Operations* of all sorts of *Remedies*, upon the several *Dyscrasies* incident to the Mass of *Blood*. We shall thereby certainly learn which Remedies do Attenuate and Rarefie, that *Vital Liquor*, which do Incrassate and Coagulate it, Which Correct its *Acidity*, *Bitterness*, *Over-saltiness*, *Inspidness*, &c. Which render it more *Balsamick*, &c. which operate more immediately upon the *Crassamentum*, or *Globuli*, and which upon the *Serum*. And in what *Dyscrasies* one Medicine more *Pow-erfully*, more *Certainly*, more *Safely* and more *Expeditionously* attains its end, than others of the same *Qualities*.

By a strict Prosecution of the *METHOD* here proposed, we shall be able not only to determine, whether the *Vires* attributed to the *Simples* now in use, are exactly such as are handed down to us by our Predecessors, and wherein they sometimes may have been mistaken (if it be not rather

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to be feared, that we are mistaken in giving wrong Names to several things) but also by combining two or more Remedies, even of like Faculties, at least in our Apprehensions so, we may inform our selves whether such Combinations do enhance and increase, or, as I am apt to suspect, lessen and diminish the force of each other's *Operations*; and whether they may not, by the Contrariety of some of their Qualities totally destroy each other's Force, and so render the whole Composition unuseful, if not hurtful. Besides, hereby may be discovered, whether several of the *most Celebrated Preparations* of some *Medicines*, do really deserve those *Encomia* which have been so liberally bestowed upon them, or whether those *Encomia* are of any other use, than to mislead the Credulous into mispence of time; the running their Patients into far greater Charges, than are really necessary, and too often even the endangering of their Lives. And since the *Various Preparations* of the very same *Medicines*, must of necessity alter something the Natures of them, so prepared one from the other; *accurate Observations* of the *Effects* produced by those several *Preparations*, in the several Cases in which they are prescribed, may, in some time, give us a full Prospect, in what Cases some
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of the said *Preparations* may be more Beneficial, and in what more Prejudicial than others: Which Knowledge is scarce to be attained, without carefully examining what *Alterations* they do actually produce, not only in the Blood simply considered, but also in the several *Dyscrasies* of it. And this Knowledge, it must be owned, would be of the highest use, in shortning the *Methods* of *Cure*, in many Diseases, and fully take off the Fears of *Patients*, of being absolutely ruined in their Healths; or of being undone, which is near as terrible to some sort of Persons, in their small Estates, or mean ways of subsisting, by the exorbitant and intolerable Charges of long *Processes* of *Physick*.

And being thus instructed, we shall on the one hand be encouraged to proceed in our *Methods* of *Curing*, with the greater Boldness, and our Patients will not be discouraged from undergoing the necessary *Fatigues* and Nauseousness of them, with more Chearfulness, if they find by the speedy good Success of our Prescriptions, and we by a strict Examination, that the Means we make use of are such as they ought to be, and like to be crowned with an happy Issue; and both of us being thus encouraged, we may reasonably hope to make more *expeditious*, more *safe*, and more *lasting*

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ing Cures, than if blindfold, as I may say, we Combate we know not what, and strike we know not where, nor how ; as it is to be feared they are often apt to do, who build their *Practice* upon the sandy Foundations either of an uncertain *Hypothesis*, or upon the, too much perhaps relied on, *Authorities* of others, in the mean time neglecting almost totally the more sure Directions of those *Senses*, which the *All-wise Creator* has most graciously bestowed upon them, I hope I may without Offence say, for their Guidance in these particulars, as well as others. And on the other Hand, if by a fresh *Inspection* into, and nice *Examination* of the *State* of the *Blood*, we meet with Reason to apprehend, that the *Medicine*, or *Medicines*, we have prescribed, or the *Course*, we have followed, were not so well pitch'd upon, as we could have wish'd, or did design, we shall soon be cautioned from the further persisting in the use of the former, and from continuing the latter, to the Detriment of our *Patients* ; and by a serious and due Consideration of the Ill-effects wrought in the *Blood*, by either or both of them, be led, as it were by the hand, to the changing of them for such as shall be likely to prove more Beneficial ; Which when once, by repeated *Examina-*
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nations of the *Blood*, we shall have found out, we shall, as I have said above, be encouraged to persist in the use of them, with more Alacrity and Satisfaction, from the fair Prospect of a desired Success; and at the same time be enabled to be more truly serviceable to others in the like Case or Cases, upon their immediate coming under our Managements.

V. Perhaps this *Method* of *Enquiry* may be advantageous, in giving us a better insight whether the several *Atonia* of the *Solids* do really act upon the *Blood*, and other *Fluids*, or not; and, *vice versa*, Whether the several *Dyscrasies* of the *Blood* do affect the *Solids*, or not; and if they do, as with the most *Sagacious* *Bagtivy* I am inclined to believe, how, and in what manner they alternately affect each other; and thereby afford us useful Directions, how to make suitable Applications to Both. But this I only hint by the bye, not doubting but that That Great Author will, in his promised, and by me earnestly wish'd for, large Work *de Fibra Motrice & Morbosa*, sufficiently clear up this whole matter.

VI. This

VI. This *Method* ought not to be despised, even by them who are the most strenuous *Patrons* for *Philosophizing* in the *Art* of *Physick*, nor in truth justly can be, if they will allow themselves the liberty of thinking *Calmly* and *Seriously*; because it will furnish them, if put in *Practice* and faithfully communicated, with *Multitudes* of *Incontestable Experiments*, whereon to reason, and from whence to raise *Probable Conjectures*, and from whence to draw almost *indisputable Conclusions*. Nor indeed would I willingly be so grossly misunderstood, in any thing I yet have, or shall hereafter assert, as to be suspected to have the least design, to encourage the Banishing the Use of *Reason* from, either the *Study*, or *Practice* of this most *useful* and most *Rational Faculty*. No, the utmost, that I plead for, will, upon the most *Mature* and *Critical Deliberation*, be only found to be that, on the *Contrary* part, the due use of our *Senses* may not be, as they hitherto seem too much to have been, wholly banish'd thence, but that the *Testimonies* of them may be allowed to have their full Force, at least in those *Cases*, where they are the most if not the only competent *Witnesses*; and so by *Consequence*, that each may have their *Proper Provinces* to preside in. And this I take to be a *Postulate* so highly Reasonable, that

that I am apt to think, that none, but those who have shook hands with their *Reasons*, or *Senses*, or both, can well deny me.

I must freely own, That the *Method* I have here proposed, tends at least directly only to afford us some Satisfaction as to the several *Morbid States* of the *Bloods* in Humane Bodies, and the several *Operations* of *Medicines*, internally *Exhibited*, in correcting them, but yields not the least Hints *ex proposito*, as to the *Dyscrasies* of the other *useful Fluids*, no other ways than what may be drawn from a general Inference, that the *Fluids*, which are *secreted* from the *Blood*, may rationally be supposed to partake of the *Dispositions* of it. And to confess the plain Truth, without any Disguise, The *Secretions* of the other *useful Fluids* (the *Saliva* only excepted) are performed in such deep *Recesses*, that I look upon it, as absolutely impossible, *Homine Vivente*, to make any exact Enquiry into them. (And whether a Scrutiny into them *post Mortem*, will be of any mighty *Use* and *Advantage* in *Physick*, I very much doubt.) To speak my Sentiments freely, I cannot think it extremely necessary to be over Curious in such Searches: Because it seems to me wholly improbable, if the *Blood* be free from any *Vice*, that the other *Fluids*, which are the Products of it, can be so bad, as to occasion
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any *Violent* or *Enormous Diseases*: And if any such *Diseases* appear, whilst the *Blood*, after the strictest *Examination*, seems to be *in Statu Sano*, I should, with the often above named *Author*, rather chuse to rank them with those of the *Solids*, than with those of the *Fluids*.

As for the *Chyle*, I must readily acknowledge it to be so far from being the Product of the *Blood*, as the other *Fluids* are, that it rather is the *Pabulum* of it; for from hence daily Supplies are admitted into the *Veins*, which would otherwise in time be quite *Exhausted*, by the constant *Expences*, which are every day made from thence. It is true, before its Admission into and intimate Mixture with the *Blood* it receives, into it, for very Necessary Uses, some of the other useful *Fluids*; as first of the *Saliva*, which descends with the Food into the *Stomach*, and by some is thought to be the Dissolvent of what by *Mastication* is before fitted for its Reception there; and in the *Stomach* it self, the Food is also irrigated with some of the Juices, excreted from the Glands, inserted in the said *Organ*, in order to the more perfect *Liquation*, or *Fusion* of it: And this *Liquamen* undergoes in the *Duodenum* further *Alterations*, and there becomes more perfect *Chyle*, by the Addition of some of the *Bile*, and
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Pancreatick Juice, which are thought to be assistant to it, in separating the *Pure* from the *Impure* Parts; and from hence the more pure parts of it, which I take to be properly the *Chyle*, are absorbed into the *Lacteal Vessels*. And yet notwithstanding all this, it may in my Opinion be truly termed, the *Pabulum* of the *Fluids* in Animal Bodies, in respect of the Disproportion there is between the Liquor produced by the Dissolution of the Food, and the quantity of the *Fluids* admitted into it, in order to its Plenary *Dissolution*, and *Preparation*, if we may be permitted to take the Denomination from that part, which is most predominant. But among the *Objections*, I shall hereafter have occasion to speak something more of the *Chyle*: At least I shall there hint a way to guess at, how conditioned the *Chyle* is, when admitted into the Blood, and before that time, by reason it must partake of the *Nature* of the *Food*, or *Foods*, which it is produced from, it will not so properly come under my Consideration. Therefore for the present, I shall dismiss this *Topick*, to make room for the *Objections* themselves.

The Notion by me propos'd, and inculcated being wholly New, (for so I take it to be) I may by consequence expect to be
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pelted from every Quarter, with *Objections*; Common Prudence does therefore oblige me, to provide for my Defence, and to secure as much as in me lies, all those Avenues, which I've most open, and by which I may be in Danger of being attack'd, with any Prospect of Success. In order to which end, tho' I will not pretend to Enumerate all those *Objections*, which this *Method* may seem liable to, yet this I promise faithfully, that I will not willingly, or wilfully omit any one of Moment, which may either occur to my Thoughts, or which I have had offer'd to my Consideration by others; as also that I will not designedly by any Misrepresentation rob any of them of their just Weight and Force. But if any should expect that in doing this, I should tie my self to any thing of an Accurate Order; I must beg his Pardon, as looking upon it, as next to impossible, in so confused a Matter as *Objections*, which may be supposed to be started by all sorts of Persons, to do it; and besides the Nature of an Essay do's not necessarily and strictly require it.

I. The first *Objection*, which I shall take notice of, shall be this. As to some *Diseases* of the Blood, the *Method* appears Natural and Easie enough, but as to others

it seems wholly Impracticable. Some *Diseases* may not only admit of, but also require large and frequent Bleedings, and thereby afford both Quantities of Blood large enough, and Opportunities frequent enough, thoroughly to examine the *Blood*, and accurately to observe all the *Changes* and *Alterations* produced in it, either by the *Diseases* themselves, or by the *Medicines* exhibited: But other, on the Contrary, are of so different a *Nature*, that *Bleedings*, especially so frequently repeated, as is hinted, may be of *Mischievous*, not to say *Per-nicious*, *Consequence*, and therefore in all such Cases the *Method* can be of no real *Advantage*, because it would be *impious* to attempt it.

Answer. All this I as readily, as the *Objectors* themselves can desire, do grant to be true, did I so much as suppose, it to be necessary that the *Venesections* should be large, as well as pretty often repeated, which I am so far from supposing, much less from requiring, That I judge it possible to make as exact a Judgment, of the *State*, *Consistence*, *Texture*, and all other *Qualifications* of the *Blood*, by the bare Emission of two ounces, or an ounce of Blood in any Case, and in the most Dangerous one of half an ounce, as of a whole Pound: (This Assertion, how *Paradoxical* so ever
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it may at first sight appear, I doubt not by and by satisfactorily to make out, to the most *Sceptical*.) Now if so very small a quantity may be sufficient, I hope it will not be look'd upon as unreasonable to suppose, that there are but few, I may say extremely few, likely to come under our *Managements*, (especially with hopes of Success) in which the loss of so very small a quantity of the Blood drawn out once in a Fortnight, three Weeks, or a Month, if the Cases be *Chronical*, or oftner, if they be *Acute*, can produce any real at least considerable Mischief. And as to those, the Deplorable-ness of whose Conditions, or the Prejudices of whose ill-grounded Opinions, will not permit us this reasonable Satisfaction, we must content our selves with doing what we can, since it will not be allowed us to do what we would. However, even in this State of Affairs, those who shall think fit to make use of this *Method*, as often as they shall have Permission, when they shall be denied the Liberty of so doing, will be in no worse Circumstances, than those who shall either oppose it, or judge it not worth their while to take any notice of it, being, I will suppose, as fitly qualified and capacitated to *Practise Rationally*, and *Successfully*, upon bare *Suppositions* and *Conje-*

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Flures, as even those latter: Nay, it can hardly be doubted, but that they will be much better fitted for such a *Practice*, by reason of the *Advantages*, they may beforehand have gained, by former *Observations*, made in Pursuance of the *Method* here recommended.

But to all this I expect it will be farther replied, That my Assertion is Extravagant, and that notwithstanding all that I have so boldly Vouched. it will be altogether impossible, to make an *Exact Judgment* of the *State*, *Consistence*, &c. of the *Blood*, by so small a quantity as I propose; because so minute a pittance of *Blood*, will be cooled almost as soon as in the *Porringer*, upon which account there will not be space of time enough, between the *Emission* and *Refrigeration*, of the several parts of it, to separate from, and disengage each other; and therefore the extracted *Fluid* may look of a commendable Colour, and the *Consistence* of the said *Blood* appear too thick, when perhaps, had it been drawn out in much larger Quantities, it would have had a quite different Aspect; and besides the *Serum* not being for the same Reason separated from the *Globuli*, we must be left wholly in the Dark as to its *Transparency*, *Colour*, *Thickness*, *Thinness*, &c.

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To this I answer, *first*, by appealing to daily Practice, That nothing is more Common, than by bare inspecting a Surgeon's Porringer (which seldom holds above two ounces) to pretend at least to pass a Judgment, upon the *Blood* therein contained, which evidently past denial shows, that a small quantity will suffice to give us an Insight into the *Nature* of the *Blood*. *Secondly*, by hinting at an Expedient, to obviate what there is of real Strength in the Objection, which is, that in the Vessels commonly made use of, for the Receiving the Blood emitted from the Veins there being so small a space in depth, between the bottom of the said Vessels, and the Surface of the Blood received into them, the *Ambient Air*, with the Chilness of the Vessel it self, works too immediately upon the *Blood*, and so the Combined Mass of *Serum* and *Craassamentum* cools all at once ; without affording time for the Separation of the one from the other, if the Blood that is to be let out be taken very sparingly. But methinks, if I am not mistaken, this Inconvenience may safely and sufficiently be provided against, by the Form and Size (which is the Expedient I design to propose) of the Vessels to be used, for receiving the Blood ; which, according to my present thoughts, I would have ei-

ther *Cylindrical*, or else in the Shape of the *Frustum* of a *Taper Cone Inverted*, or with the *Basis* uppermost, (like those Glasses in which Jellies are usually served up at Entertainments) and of such Dimensions, that every *Inch* or every *three quarters* of an *Inch* of their *Cavity* in depth, should contain the quantity of an ounce of Blood, more or less. By this Contrivance the Blood received, would cool more gradually, because the *Cylindrical*, or *Conick Column* of the *Blood* would sufficiently, for some time, resist the impression of the *Ambient Air*, which can then only act upon its Surface immediately, as it do's in other Vessels, when taken in large Quantities, and so by consequence more time would be gained, for the several parts of that *Crimson Mass*, by its cooling gradually, to separate from each other, than can be supposed when the *Blood* is spread thin upon the bottom of a Wide Porringer.

But may it not be feared, that the Coldness of the Sides of a Vessel, even thus framed, may be as prejudicial to us in our Enquirles, as the Impression of the *Ambient Air*, by striking a Chilness into the extracted Blood, which, considering the Narrowness of the internal Capacity of these Vessels, may so far affect it, as to impede the Separation of the Thinner from

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from the Thicker parts of the Blood, as much, nay more than the Sudden impulse of the Air it self? I answer no; because the falling of the Blood into it, especially if it Flow in a Large and full Stream, will thoroughly warm the said Vessel. But supposing that should not be sufficient, I hope this small inconvenience may likewise be prevented, by one of the following ways, *viz.* either by holding the Vessels for some time before or even while the Blood is running into them in a very warm Hand; or else by letting the Vessels Float in Water something warmer than Blood, before they are used. Either of which ways (though I take the former to be the better, because the warmth of an hand is near equal to that of Blood; and thereby there will be no danger of letting any Wet into the Vessel) will take off the *Chilling*, and by consequence the *Thickning Faculty* of the Glass, Earth, or Metal which might too much hinder the Separation of the *Serum* and the *Globuli* from each, without which Separation we are capable of making no tolerable Judgment of the *Crafsis* of the *Blood*.

Before I pass any farther, I think it not improper to add, that I should judge it most adviseable, to have these Vessels made of *Flint-Glass*, which, by its *Transparency* and *Colourlessness*, will permit us to take a tolerable View of the Contents of the *Blood*,

without the hazarding the blending and confounding together the several parts of it, which the taking up Porringers filled with Blood may occasion; especially when the *Serum* is very thin, and the Compages of the *Crassamentum* very lax, as in many, but more particularly *Greenfickness*, Cases I have generally found them to be. Not to mention that if they should be made of *Silver*, *Pewter*, *Tin*, or such like, perhaps the Salts contained in the *Blood* may, by their acting upon those *Metals*, and being reacted upon by them, occasion such *Alterations* in the Blood it self, as may sometimes deceive us in our Enquiries: Which is scarce to be feared or apprehended from so *Solid* and *Terse* a Body, as that of *Glass*.

And here I designed fully to have dismiss'd any further Consideration of this first *Objection*, had I not been kindly reminded by a Learned Friend (to whom I gave a sight of this Essay in its second Draught) that I had quite forgot to make any Reply to one Branch of the said *Objection*, viz. That it is extremely dangerous to bleed at all in some Cases, and therefore there my Method would be of no use. His *Objection* was twofold, which I shall set down in his own Words.

(1.) In all *Hydropical Cases*, there appears to be great inconvenience and hazard in

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pursuing the Method here propounded: The Extracting a small quantity of this *Liquor of Life* may be greatly prejudicial to a Person labouring under an *Hydrops*: Because the *Aqueous Humour* prevailing over the *Sanguineous Mass*, the loss of an Ounce or two of *Blood* depauperates the Weak and corrupted *Mass*, and gives the Distemper an higher *Predominancy*.

(2.) In *lurking Fevers* and other *Acute Diseases*, *Bleeding* has frequently produced ill and dangerous Effects: and in such Cases there is little time to make such *Experiments*.

As to the former of these *Objections* (which have been started out of my first, and are indeed branches of it) were I not resolved to answer fairly all, that have the appearance of any force against the Prosecution of the *Method* by me proposed, I might easily disengage my self at once from it, by asserting, and that I believe justly too, that the Distemper specified is not one of those, that come properly, and immediately under the *Enquiries* aimed at in this *Essay*. For if I am not very grossly mistaken, this Distemper do's more properly belong to the *Class* of the *Solids*, than of the *Fluids*; and I am apt to believe that those *Dyscrasies* in the *Blood*, which accompany *Hydropical Cases*, and that vast quantity

quantity of *Serum* which is so perniciously retain'd in the Body, whether in proper *Cystes*, or in the Cavity it self of the Abdomen, or in the Interstices of the Muscles, will at the long run be found to be wholly owing to an Ineptitude in the *Solids*, to assist the *Current* of the *Blood* in its Circulation; and by consequence in its due *Elaboration*. But to lay aside this Evasion, and to attempt something of a direct Answer to the Objection. The main force of it lies in this, That the *Objector*, with divers other Learned Men, supposes all *Bleeding* in *Hydropical Cases* may be of dangerous, if not pernicious, Consequence. But this Supposition, though it may hold generally true, yet, by the Consent of *Celebrated Physicians*, will admit of some *Exceptions*. And therefore I hope that it will be allowed as a full Answer to this Objection, or at least as sufficient for my present purpose, If I can produce *Testimonies* from Men of undoubted *Reputation* in the *Faculty*, to prove that the taking Blood in *Dropical Cases*, may be sometimes so far from being dangerous, that it may be necessary. Which if I shall be able to effect, I may in Justice expect that it will not be look'd upon as a *Criminal Postulate* to demand a Liberty, now and then, to extract half an ounce of Blood in Cases, that are not absolutely

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folutely Desperate, or Verging upon it, which is all that I propose, where larger quantities will not, with safety to the Life of the Patient, be admitted of.

Mercurialis in his *Praelectiones Patavinae de Cognoscendis & Curandis Humani Corporis Affectibus*, Fol. Venet. 1627. Page 356. informs us, that *Gal.* 4. de victus ratione 3. and *Aëtius*, do both commend letting of Blood in the Cure of an *Hyposarca*, in two Cases, viz. 1. When there is a Repletion of Phlegmatick Blood in the Body: and, 2. When the Disease is caused by a Retention of the *Menstrua* or *Hæmorrhoids*. *Pulverinus* quotes the same place in *Galen* for Bleeding in the beginning of an *Anasarca*. *Riverius* allows it at the beginning of the Distemper in the latter Case in the Chapter *De Hydropæ*. *Capivaccius* in *Cap. De Affectibus Hepatis* allows it not only in an *Anasarca*, but also in an *Ascitis*, if the Blood be vehemently peccant, and for this Opinion more expressly quotes *Avicenna*. *Casalpini* in his *Praxis Universæ Artis Medicæ*, in the beginning of the Chapter intituled *Curatio Hydropis*, agrees with *Mercurialis* aforementioned, and tells us, that *Galen* admitted of it in a *Leucophlegmatia*, though it were a Cold Disease, if it proceeded from a Retention of the *Menstrua* or *Hæmorrhoids*; and further adds, that *Paulus* and *Aëtius* were for repeating it in three days. *Hollerius* says, that Bleeding is peculiarly proper for a *Leucophleg.*

phlegmatia. And *Duretus* in his *Enarration* upon that Place in *Hollerius*, assigns two Reasons for it in these Words, *Tum ad Declinationem Causæ, tum ad Libertatem Spirandi, lib. 4. de Acutor. Morb. diæt.* and in the *Annotation* upon his said *Enarration*, he proceeds to tell us in what Cases, and upon what Accounts Bleeding may be proper in several Species of *Dropsies*: and concludes again for the Reasons already mention'd, that Bleeding is always necessary in the Cure of a *Leucophlegmatia*. *Baglivy* in his *Treatise, de Praxi Medica, &c. Lugd. Bat. 1700. Page 69, (and Page the 103. of his Works, Printed in 4to. at Lyons 1704)* quotes the *Epidemics* of *Hippocrates*, tho' he mentions neither the *Book*, nor the *Section*, for Bleeding in a *difficulty of Breathing* though in a *Dropsie*. But none that I have yet met with is more Positive and more Large, in commending *Venæsections* in *Dropsies*, as well as in other disputable Cases, than *Leonardus Botallus*, who Writes a long Chapter of it, viz. the 15th in his Book, *de Curatione per Sanguinis Missionem*, wherein he asserts, that *Hippocrates* himself Commends it, in II. *Epid. Sect. 5.* and in *lib. de victu Acutor. N. 26.* Where in Case an *Hydropical* Person be afflicted with a *Difficulty of Breathing*, *Hippocrates* thinks it necessary, if it be Spring time, and the Sick Person in the Vigor of his

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his Age, and strong, to take away *Blood from the Arm*. And in his Book *de Affectionibus*, N. 21. The same Author says, that Blood may be frequently taken from the *Splenetic Vein*, in those who have great *Spleens*, tho' inclinable to *Dropfies*. The same *Botallus*, (from whom all these Quotations of *Hippocrates* are cited) tells us, that *Galen* against *Erasistratus*, (who was a Profess'd Enemy to Bleeding) in his Book of *Bleeding*, Chapter 5, says, I have often Cur'd *Convulsions* and the *Dropfie* by *Evacuation of Blood*. As to the Quotations made by *Botallus* from *Hippocrates* I have taken the Pains, as well as I could, to compare them with the Original, and must confess, that in the first, viz. II. *Epid. Sect. 5.* (which I suppose is that referr'd to, by the great *Baglivy*) *Foësius* seems to apprehend, that the Disease meant in that Clause is not the *Dropfie*, but the *Epilepsie*; to whose Opinion I should make no Difficulty, for the reason by him assign'd, to Subscribe, were it not for the express Terms us'd in the Second, viz. *De Victu Acutorum*, Numb. 62, which the said Learned *Foësius* has no other way to evade, than by hinting that he looks upon the Text there to be not a little *deprav'd*; tho' I am apt to believe, that the chief Reason of his being unwilling to own the Genuineness of it, might proceed from its being
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so positively exprefs against the so commonly received Notion, that the Dropsie is a *cold Distemper*, and has always its Origin from a *cold Cause*. By what Testimonies I have produced, I hope I have made it appear, past Contradiction, that there were *Physicians*, of no mean Note, in most Ages wherein the *Art* made any thing of a *Figure*, who were so far from thinking it always piacular to draw *Blood*, that sometimes they judged it necessary, and recommended it, and that even in much larger quantities, as may reasonably be supposed, than I insist upon, in order to satisfie our but necessary Curiosity, in the Prosecution of the *Method* of this *Essay* by me inculcated. And that it may actually sometimes be serviceable in *Dropsies*, to draw away blood in pretty large Quantities, I am very well satisfied from an *Instance* within my own Knowledge; which was this that follows.

A Gentlewoman here in *Coventry*, towards the latter end of a Lying in, grew so extremely *Anasarcous*, after a diminute flowing of the *Lochia*, that by reason of that and her extraordinary Weakness, her Life was wholly despaired of: After which she was seized with such violent *Pleuritick Pains*, that I was called in by her *Father*.

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in-Law, Mr. Tardley (a very Skilful and successful *Chirurgion*) to consult whether it might not be adviseable, in this dubious State, to take *Blood* from her *Arm*: the Case seemed to me very deplorable; however, with *Celfus*, I thought it better to try an uncertain Remedy, rather than none, and therefore consented to the *Bleeding* in the *Arm*. What was the success of it? Why, after the second *Bleeding*, the *Pleuristick Pains* were removed; without any real at least visible Prejudice to her *Anaſarca*, which was afterwards, in the Compass of a very few Weeks, carried off, by the Application of warm *Stupes* and *Fomentations*, and she perfectly restored to her Health, which she enjoyed for some Years; till, within a Month or two of her expected Lying in, she was seized with a prodigious *Hæmorrhagia Sanguinis ex utero*; and notwithstanding the united Endeavours of her *Father-in-Law* and me, was in the space of a very few hours carried off by it. The *Corollaries* deducible from this true *History* seem to me, to be plainly these. *First*, That it may be useful sometimes to take away *Blood* in *Drops*, and that even in a not very Eligible juncture of time (as none I suppose will take the latter end of a Lying in to be:) And, *Secondly*, That Persons abounding with

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Blood may be obnoxious to *Dropsies* as it is evident this Person was, if we reflect upon the fatal *Circumstances* of her Death.

And now I hope none, who has not given himself up to Prejudice, can so much as suspect, that the taking away so minute a quantity of Blood, as I propose, can be of a *dangerous*, much less a *pernicious Consequence*, even in a Dropsie, provided the Case be not actually reduced to the utmost Extremity, and the Sick person past the least hope of Cure.

As to the *second Branch* of this last mentioned *Objection*, which has sprung out of my first General one, I will not in answer to it insist, that the matter suggested in it, is still in debate among the *Learned* themselves, some *Physicians* of *Deserved Reputation*, for Skill and Judgment, making use of *Larger* and often *Repeated Phlebotomy*, in those very *Cases*, wherein others seem to fear the loss of the smallest quantity of Blood, near as much as the actual giving *Poison*, and both sides pretending to back their different *Opinions*, and *Practice*, with *Reason* and *Experience*; but shall fairly crave, that before the *Ill-Accidents* sometimes succeeding in *Lurking Fevers*, and other *Acute Diseases*, be positively charg'd upon *Bleeding*, that all due care be taken fully to satisfy our selves, that they really are the *products* of it: for otherwise

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therwise we may often be apt to mistake a *Non Causa pro Causa*. For it is not sufficient to denominate any Accident, how bad soever, now and then succeeding to *Bleeding* in such Cases, an *Effect* of the *Bleeding*, unless it can rationally be proved a *necessary* and *constant* *Consequence* of it. *Ex. gr.* Abundance of Persons may, and I fear actually have Miscarried after *Plentiful Bleedings*, even in *Essential Pleurifies*. Will any Man therefore, who is not blinded with an Invincible Prejudice against taking Blood in any *Case*, from hence infer, that the *Extracting Blood* in *Cases truly Pleuritic*, is dangerous, or pernicious? Before therefore we proceed to pass a *Definitive Sentence*, in particulars of this Nature, we ought well to weigh, whether *Blood* has not been taken in *too small a Quantity*? whether the *Medicines* exhibited immediately thereupon were *proper* or *improper*? or whether the *Regimen* after used might not rather than the *Bleeding* be the *Real Cause* of the *Ill-Effects*, so justly complained of? Though I cannot but think that I have express'd my present Notion in Terms sufficiently Intelligible; yet I will, for the further Clearing of it, suppose, what I fancy none will deny me, That there are, or at least may be, *Fevers*, which are purely *Inflammatory*: and that in such the only

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proper *Indication* is the *Abateing* the *Inflammatory Disposition* of the *Blood*: For the attaining which end, I doubt not but it will readily be granted me, that *Large* and *frequently Repeated Venesections*, *Plentiful Dilutions*, with *Cooling Liquors* and *Juleps*, a *Free Use* of *Air*, avoiding all kinds of *Exercise* which may heat, are the most likely *Means*: Now if instead of these *Methods* I should under such *Circumstances* *Extract Blood* but *once*, and that *sparingly* too; instead of *Large Draughts* of *Cooling Liquors* and *Juleps*, I should prescribe *Strong Cordials* and *Heating Juleps*, though even to be taken *seldom*, and *sparing* too: instead of taking my *Patient out of his Bed*, and keeping him *thence*, and instead of *opening the Windows*, to let in *Air*, upon him, I should keep him constantly *stived up* in *his Bed*, with the *Curtains close drawn about*, and a *Load of Cloaths* upon it: If instead of *keeping him still and quiet*, I should put him upon the *most violent Exercises*; can any ascribe the *succeeding Ill-Effects*, which may and must in all humane probability attend such a *preposterous Management*, to his being once blooded? I suppose not. If it be urged that this *Instance* seems foreign to the *Cases* mentioned in the *Objection*, I cannot but own that the *Case*, I have here more particularly insisted on, is vastly different

ferent from those therein suggested; but yet the arguing upon it may be of some good Use, to prove, that without due *Care and Attention*, and without a diligent and exact *weighing and considering all Circumstances*, especially where things are not very clear and apparent, we may be rendered liable to pass wrong *Censures* upon *Methods*, and to ascribe *Ill and Good Successes* to wrong Causes; and more especially if we are so unfortunate as to have our minds *bias'd* by any previous tho' *groundless Prejudices*, or to be *Bigotted* to any *Hypothesis*; both which all Prudent and Conscientious Persons ought to be very careful, sufficiently to guard themselves from, and firmly to believe and assert nothing, but upon very good *Grounds*.

But after all, in the *Method* by me proposed, it is not large *Bleeding* that is either desired, or expected, as necessary to capacitate us for making all due *Enquiries* into the *true State* of the *Blood*, and in the several *Alterations*, wrought in it by the *Exhibitions* of those *Medicines*, which we shall think fit to make use of: and certainly that Man's Health must be in a miserably tottering Condition, the loss of half an ounce of whose Blood, now and then extracted, shall endanger his Life; and yet this is a quantity, according to my *Proposal*, suf-

sufficient very fairly to satisfy our Curiosities, where larger quantities may not be taken with safety, as in many Cases there may. And now I think it is high time to have done with the first *Grand Objection* to my *Method*, and all the Branches of it, in order to proceed to a *Second*, which shall be this which follows, which I expect not only to be started up, but also much insisted on, against the *Usefulness* of the Method I have taken so much pains to recommend, for the *Investigating the True Causes* of the *Diseases of the Fluids*, and more especially of the *Blood*, and for the *rightly Informing* our selves of the *Immediate Operations* of all sorts of *Medicines inwardly Exhibited*, upon the said *Fluids*, in producing the *Cures* of those *Diseases*, viz.

Secondly, That in both these *Enquiries* I seem to lay too much *Stress* upon the Testimonies of our *Senses*, which must be acknowledged by all Men to be liable to mighty *Deceptions*.

Ans. I readily own, that this would be a very formidable *Objection*, were it not that the *Methods* of those, who are most likely to raise it, are equally, nay much more likely to deceive, and impose upon us; and therefore it would not be improper, if they would first fully clear themselves from the *Force* of this *unlucky Argument*, before they

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are so severe as to urge me with it, and then perhaps they would soon be fully satisfied, that all their *Solutions* of this *Gordian Knot* would equally militate, nay, it may be, more on my part than their own.

But that I may not, by only shifting off the *Objection* upon the *Objectors*, seem to give up the *Cause*, and thereby afford any Occasion to suspect, that I know no other way of answering it ; I shall endeavour in the next place, to prove, that there is not that *Mighty Force and Weight* in it, that perhaps may be imagined, and that maugre all the Opposition that this *Objection* can make, the Assertion will hold true, That our *Senses*, notwithstanding all the Imperfections and Fallibilities they may be too justly charged with, are the best, and most proper Directors, we can expect to meet with in *Enquiries* of this *Nature*.

It cannot be denied, but that all our *Senses* may be, and in fact really are Subject to *Errors* and *Deceptions*, of some kind or other. Our *Sight* may be *Dazled* by too resplendent Light, or obscured by Mists and Clouds interposed. Our *Taste* may be vitiated, so as not to distinguish between *Sweet* and *Bitter*, &c. Our *Hearing* so dull'd, as not to hear distinctly ; and the *Organs*

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of *Feeling* may through hard *Labour*, *Burning*, a *Paralysis*, or some other *Accident*, become so *Callous*, or some otherways *indisposed*, as to be insensible of *Heat*, *Cold*, &c. or rightly to distinguish between *Palpable Objects*. It may further be owned, That many of the very *Brutes* do excel *Man*, their *Lord and Master*, in the *Exquisite*ness of many, if not all their *Senses*. But notwithstanding all this, would it not be justly look'd upon as extremely *Ridiculous* from thence to infer, that therefore we must totally discard the Use of them all? And would not that *Man* truly deserve the Character of *Senseless* and *Distracted* (to give one instance for all) who because he had once or twice lost his way, with his *Eyes open*, in no difficult Road, should resolve ever after to travel blindfold, though it were on the *Tops of Precipices*? Nay, may I not appeal in the *Case* to the very Determination of those Persons, who value themselves for being *Strenuous Patrons* for *Reason* in *Opposition* to, and *Derogation* of *Experience* gained by our *Senses* alone? Do not even they themselves make the *Evidence* of our *Senses* their *Dernier Resort*? For what end else do they produce to us such *Multitudes* of *Experiments*, but to prove to our *Senses*, that their *Hypotheses* or *Conjectures* are well grounded, or at least

least probable? so that even by this their way of Procedure we may plainly see, that, whether they will or no, they are forced to grant, That unless they can give *Satisfaction* to our *Senses*, their *Opinions* deserve but little Credit. Their Experiments by Mixtures of *Alcalies with Acids* are publish'd, to demonstrate to our *Senses*, that they act upon and combat each other: Those by mixing each of them with *Syrup of Violets*, &c. are designed, to expose to our *Viem*, that they produce different *Colours* therein, and by consequence that they operate differently. These by pouring Vinegar upon *Coral*, &c. are made to evince to our *Tastes*, that the *Testacea* do actually destroy *Acidity*. Those by mixing *Remedies* with *extravasated Blood*, or by injecting *Remedies immediately into the Blood-vessels of Living Animals*, are intended to satisfy us by *Ocular Demonstration*, that some of these *Remedies* do *Thin*, and others *Thicken*, or some otherways act upon that *Vital Liquor*. If our *Senses* may then be trusted and relied on in the *Examination* of these *Experiments*, can any give me one Solid Reason, why they may not equally be trusted, and relied on, in our *Searches* after the *Causes of Diseases*, (at least of those of the *Blood*) and the manner of the operations upon the *Blood*,

of *Remedies internally exhibited*, for the *Cure* of them, according to the *Method* by me proposed? And why may they not, so *regulated*, be esteemed if not *Competent Judges*, yet at least more *Faithful Witnesses*, and more certain *Directors and Guides*, than bare *Conjecture*? Which *Conjecture* do's only fancy what may be the *Cause* of a *Disease*, or what may be the *Operation* of a *Medicine*, (but cannot certainly determine what they really are; for then it would cease to be *Conjecture*, and become actually *Knowledge*, which is inconsistent with the *Notion* of *Conjecture*, or *Hypothesis*) and from thence pretend to build a *Practice*, which is much more likely to be *Bad*, than *Good*; because it has no *Firm and Solid Foundation*, for this very *Reason*, that *Truth* being but one, and *Errors* manifold, unless the *Conjecturer* has the good *Luck* to hit upon the *Right*, (which there is perhaps a thousand to one odds, that he do's not) the *Practice*, which he raises, must, by almost a necessary *Consequence*, be *Erroneous*; and the more so, the more *Erroneous* he is in his *Apprehensions* of the *Causes* of the *Distempers* themselves; which he fondly though falsely imagines himself fully to understand. But in the *Method* by me offered, discarding all imaginary *Fancies*, we only seek to find out, by the *Guidance* of

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of our *Truſty Senses*, what is amiſs in the *Blood* (for I am only ſpeaking of the *Diseases of it*) and endeavour to correct the *Fault* or *Faults* we actually ſo find out ; which if we can *effect*, we do at leaſt make the *Blood*, ſo much better, if we do not work an *Absolute Cure*.

One thing more I cannot but here take notice of, (which, though perhaps by ſome it may be thought not properly placed, yet it is not altogether Foreign to the Debate in hand) and that is if we may indeed ſafely argue from the *Effects*, we muſt allow that the *Causes of Diseases* are really *Fixt, Permanent*, and *Certain* things, (however the *Natures* of them may be concealed hitherto from us) and therefore capable of being found out by diligent Searches, ſince they are to be removed, and the *Diseases* themſelves to be Cured, by proper *Remedies*, whoſe *Operations* cannot be denied to be *Fixt, Permanent* and *Certain*.

But it may be reply'd, that tho' this ſhould be granted, which perhaps never was denied, that the *Causes of Diseases* are *Fixt, Permanent*, and *Certain* ; yet our *Senses*, by reaſon of their *Dulneſs*, (tho' they were liable no other way to be impos'd upon) are incapable of rightly *investigating* them.

To this I might Rejoin, that were our *Senses* actually much *duller* than they are,
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or than some would make them appear to be, yet they are better Directors than bare *Fancies*, which perhaps have no other Foundation than *Idle Chimera's* in the Fancier's Brain; because some Help and Assistance is of more use, than none at all. But this I shall wave, as having already sufficiently hinted it; and in lieu of a Direct Answer, crave leave to propose, to the Serious Consideration of all Unprejudic'd Persons, a Doubt, *viz.* Whether this *Dulness* of our Senses, so much, and so justly complain'd of, be not in a great Measure, if not altogether owing to our Neglect of the *Exercise* of them, by reason of which, they seem like Cast-away Iron to be over-run with Rust, or like a long Uncultivated, tho' naturally Rich Soil, to be overgrown with Weeds. That this is not altogether a Wild and Groundless Notion, will, I doubt not, appear to any who shall but consider, that a tolerable *Good Ear* may, by Use and Practice, be brought to that Niceness, as exactly to distinguish all Degrees of *Tones*, and yet in Process of time, through Disuse, become so Unharmonical, as scarce to know one Tune from another. And I have met with (which comes nearer to my present purpose) from a very Credible Author, and receiv'd from the Living Testimony of

of Persons of Undoubted *Veracity*, that many of those, who have been accustomed to the drinking of nothing but Water, have arrived at that *Accuracy*, as perfectly to distinguish between those Waters, which to an ordinary *Taster*, have not had the least difference of *Relish*; and not only so, but also determine thereby the *differences* of *Strength* in those Waters, as exactly as others could do between *Wines* of different Sorts. The *Canibals* are moreover reported to be endu'd with that *Acuteness* of *Smelling* as to pursue, or rather hunt after their *Enemies* by the *Scent*, and that too at a considerable distance.

If these Instances are true, surely it cannot be thought Unreasonable to believe, or at least to suppose, till full proof be made to the contrary, that it is not absolutely impossible, by unwearied *Diligence* and due *Attention*, and by frequent *Exercising* of them, so far to sharpen our *Senses*, as to make them, with the Assistance of our *Reason*, *Nice* and *Faithful Discoverers* of all the Irregularities in the Blood: Which if it can be effected, will be of the greatest Service to Mankind, by rendring the *Natures* of *Diseases*, at least of those which proceed from *Vicious Bloods*, plain and intelligible, and the *Methods* of
Practice

Practice in the *Cure* of them, *Expeditions*, *Safe*, and *Certain*: Tho' perhaps it might give a *Check* to the *Exuberancies* of *Mens Fancies* in *Excogitating Hypotheses*; which, according to my present *Apprehensions*, were a thing heartily rather to be wish'd for, than *fear'd*.

I hope nothing I have said on this *Topick*, will be liable so far to *Misconstruction*, as to render me suspected guilty of so gross *Absurdity*, as to imagine, that all *Subjects* are capable of equal *Improvements*. By this I mean, to express it in other *Terms*, for fear of being misapprehended, that I do not imagine, that the *Senses* of all such, who may or shall apply themselves to the *Prosecuting this Method*, will be fitted to make their *Enquiries* with a like *Success*, supposing even that they should be endued with an *Equal share of Diligence*. No, I am not myself so devoid of *Reason* or *Sense*, but that I am fully satisfied, That in some *Persons* the *Organs of Sensation* are naturally better qualified, for the receiving of the *Impressions* of *External Objects*, and communicating them to the *Commune Sensorium*, than in others. Daily *Experience* evinces, that the *Ears* of some are so irrecoverably *Dull*, as never to distinguish between *Tones*. The *Visive Faculty* is in some *ab Origine*, so dif-

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disorder'd by the *Ill Constitution of its Organs*, as not to see *distinctly*, *Objects* at any considerable Distances ; and in others, the *Sight* of even the nearest *Objects* is very *obscure* : Some are so Unhappy as to have their *Olfactory and Gustile Nerves* so obstructed, (I chose to join them together, because those Imperfections frequently accompany each other) as not to find any distinguishable *difference* between *Sweet* and *Fetid*. All that I pretend, is, that it is possible for those who are endued with tolerable *Senses*, by *Exercise* still to improve them, and to advance them nearer to *Perfection* ; and by consequence to make them more useful in such kinds of *Enquiries*, than perhaps at present they are : Nor will it hence follow, that only those that are qualify'd for the *Study and Practice of Physick*, whom *Nature* has enrich'd with the *Nicest Organs of Sensation*, no more than that those only are to be admitted to them, who are Bless'd with the *Richest Endowments of Minds*. In both Cases an *Indefatigable Industry*, and a *Fixt Attention of Mind*, will compensate for some *Deficiencies* on either Hand : and Persons so qualify'd may be highly serviceable in the *Commonwealth of Medicine*, both to the present and future Generations, tho' not equally with them that have all these *desireable Qualifications*.

both of *Mind* and *Body* united together in them. But to conclude this point, I beg that, before we proceed to too severe a *Judgment* upon our *Senses*, all due *Care* may be taken fully to inform our selves, of the utmost of what they can do: And this I think is but a fair and *Reasonable Request*.

III. Another *Grand Objection* that I may expect will be laid in my way is, That since I have so evidently betrayed a *Diffidence* of the *Vires*, generally attributed to *Remedies*, I leave Practitioners wholly in the Dark, how to satisfy *Indications*; and that thereby I do reduce *Medicine* to the greatest *Uncertainty imaginable*, instead of bringing it, according to my Proposal, to the *Greatest Certainty possible*.

My Answer to this must be divided into several parts; and therefore,

1. One of my *Chief Designs*, in this *Essay*, being by a *Probable Method*, *Truly and satisfactorily* to find out, How *Remedies* do really act upon *Vicious Bloods*; it was necessary, that I should not intirely acquiesce in a *Blindfold and implicate Faith*, that all which either *Ancients* or *Moderns* had asserted, about the *Operations* of *Simples*, is undeniably true; especially, seeing they had not been so kind to us their Successors, as to impart to us how they made those *Discoveries*;

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coveries; and more especially, since there is Reason sufficient to doubt, whether many of the *Remedies*, we now use, are the very same with those dignified by the same *Names*, in the *Ages* of our *Forefathers*: Which may give occasion to suspect, that like Errors of *Names* may have slipped in among others inobserved, and not taken notice of. Besides our industry, in this particular may perhaps furnish us, with even more *Virtues* of the very same *Simples*, than even They knew.

2. It ought duly to be considered, that *satisfying an Indication*, and knowing how that *Indication is really satisfied*, are two distinct things, which ought by no means to be confounded. I will for once suppose, though not grant, that all the *Materia Medica* in our *Systems* of *Physick* is duly stated, and that the *Virtues* assigned, to every one of the *Simples* therein contained, are real; Ought this to hinder a *Curious* and *Inquisitive Physician*, from endeavouring, *rightly*, and *as fully* as is possible, to inform himself, by what *Operations* upon, or in the *Fluids*, or on the *Solids*, or on both, the *Effects* by them wrought, are produced? For instance, The *Peruvian Bark* is known, certainly to cure all *true and Genuine Intermittents*, how differently soever *circumstanced* with *Sym-*
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ptomes, or how *disguised* soever under the Appearances of other *Affects*. The matter of Fact herein is *Certain* and *Undeniable*, but the *Modus Agendi* is yet a Secret : (and must continue so till some better *Methods* are excogitated, for the *investigating* the *Powers* of *Medicines*, than to me seem hitherto known) for the asserting that it do's it *specifically*, is in truth no more, than to say, it do's it, because it do's it, or by doing it, unless we can by some means or other find out by what *Alterations* in the *Blood*, or by what *Effects* upon the *Solids*, (which may either of them be, either *Primarily*, or *Secundarily* affected) or by what *Operations* on *both*, the *Cure* is produced. Again; *Opium* and its *Preparations* are acknowledged by all, who have but the least smattering in *Physick*, to be endued with the *Qualities* or *Faculties* of *Easing Pains*, *Stopping the Fluxes of the Belly*, &c. and of *Procuring Sleep* : But how all these *Effects* are produced, whether by *one and the same Quality* differently applied, or by *Various*, as being things not certainly known, may (notwithstanding all the Pains the *Ingenious* have hitherto been at in sifting these matters) deserve still the *Diligent Enquiries* of the *Curious*, in this or some better *Method*; as also what that *Quality* is, or those *Qualities* are, which exert such

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3. And lastly, To give a direct, short and full *Answer* to the Objection, I cannot in the least apprehend that the *Method* by me proposed, (if put into practice) will any ways endanger the bringing any Confusion into *Practice*, nor make the Encouragers of it more at a loss how to proceed in their *Cures*, than those that neglect it, even at their first taking it up; because it presupposes, or at least may do it, till *Experience* shall make out the contrary, that the *Received Notions* in *Physick* are *True*, and that the *Virtues* assigned already to *Remedies* are Indubitable; and therefore leaves all Men at full Liberty to follow *Processes*, and to make use of *Remedies*, already recommended, till they shall be fully convinced, by *Accurate Observations*, and the unquestionable *Testimonies* of their *Senses*, that the former are *Erroneous*, and the *Virtues* assigned to the latter are *Fictitious*, and *False*. In both which Cases a Prudent and Good Man would, and should, be more desirous to Correct his Practice, (which the *Method* by me hinted will, I humbly hope, enable him to do) than to persist even in the most pleasing *Error*.

IV. A Fourth *Grand Objection* perhaps may be this, That this *Method of mine* seems to be levelled at the *Discovery* of the several *Dyscrasies* of the *Blood*, but that no Notice is here taken of those of the *Chyle*, which certainly deserves our Serious Consideration, as being the *Pabulum*, from whence the *Blood* receives its daily Supplies, and which ought the more to be regarded, if the *old Maxim* be true, *Error in Concoctione prima non corrigitur in Secunda*.

Ans. This Objection, if I am not mistaken, carries in it something of an Answer to it self: for it being acknowledged, that the *Chyle* is the *Pabulum* of the *Blood*, in exactly examining the *Blood*, we are Capacitated to form some kind of *Idea* of the *Chyle* it self, a great part of the *Blood* being the daily *Product* of it, and by consequence the whole *Mass* of *Blood* being affected by it, and partaking indubitably of its *Nature*. And to speak my opinion freely, without any manner of Disguise, I cannot think it would be of any great Use, to examine the *Chyle* (were it possible, *Hominem Vivente*, to do it sooner) any considerable time before its Admission into the *Blood*; because, if it were examined immediately after the Dissolution of the Food in the Stomach, it must of Necessity so much partake of the *Nature* of the

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Foods, by the Dissolution of which it was produced, and by consequence be so various, unless a Man perpetually kept to one sort of Diet, that it would be altogether impossible to gain any *Certain*, and Useful, Notion of it. And indeed, till it have undergone a further *Alteration* in the *Duodenum*, by the *Admixture* of the *Bile* and *Pancreatick Juice*, which are assistant to the Separation of the *Excrementitious* from the *Purer* parts of it, thereby rendring it fit to be transmitted into the *Lacteal Vessels*, it scarce deserves the Name of *Chyle*, and therefore before that time our *Enquiries*, into its *State* and *Condition*, would be but *Insignificant* and of no real Use.

But if this will not satisfy the *Objectors*, I have but one thing more to offer, for their Satisfaction; which may be attempted without intrenching in the least, or derogating from the *Method*, before laid down: And that is this; To make choice of a time for the taking away *Blood*, which may be most suitable to this secondary *Enquiry*, viz. When the *Chyle* is most plentifully admitted into the Mass of *Blood*, and before, by the frequency of the *Circulation*, it is perfectly *Assimilated* into *Blood*, which I take to be about three, or at utmost four, hours after a full Meal. This

time is not rigidly to be adhered to, because the *Action of Digestion* is, in some sooner, in others latter, as proceeding either from the Strength, or *Weakness*, of the *Concocting Faculty* of the *Stomach*, or from the *Nature* of the *Food* taken in; some being more easily, some more difficultly, dissolved: and therefore this *Distribution* of the *Chyle* may be, either sooner, or later, even in an *healthy*, as well as a *sickly State of Health*. But however, as I suppose, this time may be tolerably enough guess'd at, without any considerable *Error*, by the Abatement of that Load, and Oppression, which generally succeed to a plentiful Eating.

I doubt not, but, if due *Observation* be made, great *Differences* will be found between *Blood* drawn from the same Person, and in the same State of Health, at this and at a much longer Distance from his Feeding: and am very much perswaded, that we are frequently led into perhaps no small *Mistakes*, in our Opinions of the *Crisis* of the *Blood*, by the unseasonably, as I take it to be, emitting it, according to the Custom of some, in the Afternoons. However, I will not be over positive in this Assertion, till further Experience shall direct me which side to take.

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If this Notion be true, we may expect at our *Bleedings*, at the time above hinted, to find some portions of the *Chyle* fluctuating on, or adhering to the *Surface* of the *Blood*, or else mixt with *Serum*, when cold, which we may, as well as we can, examine by our *Senses*. Or if we rather chuse to examine the whole *Mass* while hot, by tasting a drop of it, we may be able to give something of a tolerable guess at the Nature of the *Chyle*, at that time; because it being supposed not as yet perfectly *Converted* into, and *Assimilated* by the *Blood*, must of necessity much *alter* the Natural *Taste* of the said *Blood*. But for the better direction of those, who shall think it worth their while to make this *Enquiry*, to pass a right *Judgment* in the *Case*, it will not be improper for them beforehand, as fully to inform themselves as may be possible, what real *Alterations* in the *Taste* of the *Blood* the *Intromission* into it, even of *Good and Laudable Chyle*, do's produce; for otherwise they will be wholly incapacitated from judging truly, when it is *Faulty*.

V. Another, and, with some I doubt not, a very great *Objection*, against the real Usefulness of the *General Method* by me proposed, will be, That proceeding in this

slow way of *Enquiry*, it will be absolutely Impossible for any single Person, in the Compass of an whole Age, (could he expect to spin out his Life so long, and could he hope, during all that space of time, to enjoy his *Intellectuals* and *Senses* intire) to understand fully the tenth part, much less the whole, of the present *Materia Medica*, which is now swollen (the more is the pity) to so Prodigious a Bulk.

Ans. This would be a dreadful *objection* indeed, were it absolutely necessary for any *Physician*, to understand exactly the *Virtues* of even the tenth part of the *Materia Medica*. 'Tis true, to be able to talk plausibly and probably (for to do it accurately the Boldest dare scarce pretend to) of the whole *Sylva Medicaminum* in general, may tend to raise in a Man's self a mighty Opinion of his own Abilities, and perhaps acquire him a vast Reputation of Learning among such others, as only take a transient View of the outside of things. But what is all this to the *Curing effectually* of *Diseases*? When all is done it is not the superficial knowing the *Virtues* of *Abundance* of *Remedies*, but the judiciously *Selecting*, and *rightly Exhibiting* and *Applying*, the most *Proper* and *Efficacious*, that will be serviceable to the *Removing Maladies*. This perhaps may
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be as effectually done, were nineteen parts in twenty, of both *Simples* and *Compounds*, quite discarded out of *Use*: How else came the *Antients* to be so Celebrated for their Success in *Practice*? And therefore upon the most serious Deliberation, I cannot think it necessary, for any Physician, to be at so much useless pains, as to get without Book the Names, and Virtues of all the *Simples*, and *Compounds* he shall meet with in *Authors Ancient* and *Moderns*. No, it will be sufficient, according to my present Apprehension, (and therein I doubt not to have the concurring suffrages of those, who perhaps value themselves for knowing more in these Matters, than their Neighbours) for him to get a thorough understanding of so many only, as shall capacitate him, effectually to satisfy all the *Indications*, he shall have occasion for. All that is above this Competency, is in truth nothing but Superfluity, and a Burden, serving rather to swell a Man with high thoughts of himself, than to make him one Jot the more successful in *Practice*; which, I am very sure, is what he ought the most chiefly to aim at, in all his *Studies*. This Reflection, how severe soever it may at first sight appear, will scarce be judged groundless by those, who will give themselves liberty to consider, what I

have hinted a few Lines above ; and do now again repeat, as a certain tho' shameful Truth, *viz.* That the *Antients*, tho' furnish'd with a poor stock of *Medicines*, (if compared with our vast store) and some of them too not the best Conditioned, performed *Cures*, which have render'd them Famous to *Posterity*, and which have scarce been *Equalled*, much less *Excelled* by their *Successors*.

If what I have hitherto urg'd, will not render the Objectors contented with a Competency, which perhaps, without much Difficulty, may be attained, by any one, strenuously and industriously prosecuting the *Method* so often referr'd to, but their greedy Minds must still, like Covetous Misers, desire more than enough, I have this further to add ; That what one single Stock (how Plentiful soever it may be) will not furnish, may sufficiently be supply'd, from the United Stocks of many : Or to speak plainer, tho' it must be impossible for any one Man, fully to investigate after this manner the *Virtues* of every *Medicine*, for want of Time and Opportunities to make *Experiments* upon each of them, tho' he had the greatest *Accuracy*, joined to the most unwearied Diligence ; yet this Deficiency may be thoroughly provided

provided against, if a great many will undertake their several Shares, in the same Task, *i. e.* If they will endeavour, in the *first* place, by this or some better Method, to find out the *True Vires of Medicines*, both *Simple* and *Compound*; by this I mean, that they should by agreement several of them take several *Medicines* as their *Province* to Enquire into, and not all of them run upon the very same. 2^{ly}, If they will, with all the convenient speed they can, after they have competently satisfi'd themselves, faithfully, without disguise, and fully, without concealing any thing Material, communicate to the World, for the future Benefit of Mankind, their *Observations*; if this Course were punctually taken, we might reasonably hope in the Compass of not many Years, to know to the utmost possible Certainty, what Remedies really could, or could not do.

VI. But, says another, supposing your *Method* as proper as you can wish, whence must we take our *Standard of Good Blood*? And where shall we find it set down? And yet, without a Certainty in this one Point, we shall (like Mariners driven by a violent Storm, they know not whither, depriv'd of the Sun and Stars, and without a Compass) not know what *Course* to steer;

fear; for unless we are really satisfi'd what Good *Blood* is, and wherein it consists, we shall never be able, at least, *Accurately*, to observe the several *Deviations* from it, and so by *Consequence* never be capacitated duly to correct them.

Answer. It would be Vain, as well as disingenuous, not to own, that this one *Objection* presses me with more Force and Vigour, than all those already Answered; and that it does almost shake the very Foundation of the *Notion*, I have taken all this Pains to inculcate, of the Usefulness of this, or indeed any other *Method* of *Indagating* the *true Causes of Diseases*, proceeding from *Vitiated Bloods*, and of *Investigating* the *True Operations* of all sorts of *Medicines Internally Exhibited*, with design to *Effect* the *Cures of the said Diseases*: since it must seem, something at least, *Absurd* to talk of *Reducing* the *Dyscrasies* of the *Blood*, whilst we are wholly Ignorant what that true Standard is, which we ought to reduce them to. And therefore, though I have endeavour'd already (*viz.* under the first head of those *Advantages*, which might reasonably be expected from a strict *Precsecution* of the *Method*, by me herein propos'd) in a great measure to prevent this *Objection*; yet I think my self obliged something more at large here to consider it,

it, and to take all Prudent Care, possible, to guard my self from all the Dangerous Wounds, I may otherwise be liable to receive from it.

And here I hope the *Reader* will not be Offended, if I should repeat, almost *Verbatim*, what I have said in the place aforementioned. I there owned, and here again repeat it, that I look upon a Compleat and Adequate Notion of the *True Crasis* of the *Blood in Statu Sano*, (how necessary soever it may be, to this our End and Purpose) to be hitherto a *desiderandum in Medicinâ*. If I am therein under a Mistake, as I bewail my *Misfortune*, in never having met with it; so I shall be very thankful to any one, that shall be so kind, as to inform me in what Author, and in what part of him, I may find such an *Account* of this *Affair*, as may be safely rely'd upon, without endangering my running into Error; and such as shall by the generality of the *Learned* be acknowledg'd to be *tolerably Exact*; because thereby he would enable me to disengage my self, all at once, from the most *Troublesome* and most *Formidable* of all my *Affailants*.

But tho' we are not at present so happy, as to be intimately acquainted with, and to have a *Priori*, a perfect *Notion*, of the *Nature* and *Constitution* of the most perfectly *Heal-*
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thy State of the Blood, may we not rationally hope, by *Industry* and a *Judicious Collating of Multitudes of Accurate Observations*, made in Prosecution of this, or some more Ingeniously contriv'd *Method*, to acquire *à Posteriori*, a tolerable at least Knowledge of the *less perfectly Healthy*, (Excuse the Uncouthness of the Expression) *States of the Blood*? *States of the Blood* I call them, as believing, and not without Appearance at least of Reason, that there may be more than one bordering on each side of that which deserves the Character of most *Perfect*, even such as cannot well be found fault with. And then, may we not *Rationally* hope, by the arriving, if we can, at the Knowledge of these *less perfectly Healthy States*, to obtain at last a true *Idea* of that which is most *perfectly* so; which would be the most infallible *Criterion*, for *Physicians* to direct their *Practice* by, in Correcting the several *Dyscrasies* of the *Blood*? tho' I verily believe, that this most desirable *State*, like the *Old Temperamentum ad Pondus*, is of so *fugacious a Nature*, that no meer Man ever was, or ever can be, long possess'd of it.

But farther, I beg leave to ask a few Modest *Questions*, viz. Whether this *Objection*, if *Rigidly* and *Maliciously* insisted on, does not shake all other *Methods*, not only

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ly of *Enquiries*, but also of *Practice* upon *Diseases*, which proceed from *Vitiated Fluids*, as much as this *Notion* of mine? Are the *Objectors* sure, that unless we thoroughly understand the most perfect States of all *Fluids*, 'tis impossible to *Correct* the *Vices* of them? Then what becomes of this Large Branch of *Physick*, which has hitherto, almost solely Employ'd our Thoughts, whilst as I have before sufficiently prov'd, the poor *Solids* have lain by almost totally neglected? Do not even they themselves, who are most likely to urge me with this *Objection*, pretend to *Correct*, or *Cure* all these *Vices*, either by *Alteratives*, or *Evacuatives*, or *Both*? And yet I believe they have scarce the Confidence to Assert, that they thoroughly understand the *Natures* of the *most Healthy States* of each of the *Useful Fluids* in Humane Bodies. What then? Must they? Will they forbear endeavouring to make *Bad Humours better*, because they do not yet fully know, wherein the *best States* of each of them do actually consist? Or ought they not? Do they not make a Virtue of Necessity, by forming such *Ideas*, to themselves, of every one of them from *Reason*, and *Experience*, as may be of great Use, in directing them what *Courses* to take, in their Proceedings? And these indeed,

indeed, how imperfect soever they may be, they must content themselves with, till more *Consummate Notions* may be attained, by further *Experience*; which the *Method* by me proposed seems, at least, fairly to promise. And if this Concession be allowable to others, why should I be held to harder Measures? Especially since I have now where declared, that I think it absolutely necessary for a *Physician*, to be perfectly acquainted with the *Nature* of the most accurately *Healthy State of Humane Blood*: Though I do, and ever shall, own, that it would be supereminently *Advantageous* to him so to be, if it be possible to attain that *Sublime Pitch* of *Knowledge*; and that I verily believe, it would infinitely (pardon the word) shorten his Cures of all such *Diseases* as do proceed from their *Vices*.

VII. I have but one *Objection*, and that is, which way there is to distinguish between the *Effects of Nature*, and those of *Medicines* exhibited, and especially in *Acute Cases*, which for the most part keep the same *Periods*, and *Determine* one way or other with, or without, *Medicines*, (I except *Intermittents*, and the Case of the *Cortex*.) A *Fever* that runs a *Course* of 14 days, and then comes to a *Crisis*, that same *Fever* do's so, though you give, or not

not give, *Medicines* (provided there be no failure in *Externals*) and consequently the *State, Texture, Colour, Taste, &c.* of the *Blood* shall pass all the same *Alterations*, by the *Powers of Nature*; and all the same things shall be done with, and without, *Medicines*. Suppose in a *Pleurisie*, where at *first* letting of *Blood*, you find the *Colour Sisy* (as they call it) by the *second* or *third* Bleeding you find this altered, even without any additional *Medicine*, and the *Blood* it self comes to its right *State*, by its *Circulation*, or its *proper internal Powers*, and rectifies it self: and the same may be said of *Rheumatisms*, and perhaps of all *Inflammatory Diseases*: However to be sure in *Fevers*. Now then, the *Question* is, How, by your *Method*, you shall be inabled to know the *Powers of Medicines*, even although you see the *Colour*, find the *Taste, &c.* changed after the *Exhibition of Medicines*, when even they would be changed in the same manner, although perhaps you gave no *Medicines* at all: this therefore will leave you in the Dark, as to the *Vires Medicamentorum*; whereas, it may be, *Nature* only, and even *Nature unassisted* by *Medicine* might have effected it. I own this is an *Objection* against all *Medicine*, and therefore seems to *conclude too much*, and that is worse than *too little*; but thus far 'tis *Valid*, that your
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Method, pretending to more *Certainty*, if it can better encounter this *Objection*, than others, I believe it may be much for the *Advantage* of it, and therefore I recommend it to your *Consideration*: although I have only hastily drawn it up, and you may, or may not, take notice of it, as you see occasion; for no body (as I know of) makes it but my self.

Having received this *Objection*, in an *Obliging Letter* from a *Learned and Eminent Practiser in London*, who did me the *Honour* to review this *Essay*, in its second Draught, and whose *Sentiments* never fail of making a deep *Impression* upon, and of having a due weight with me; I cannot pass it over *cursorily*, but think my self obliged to take it into my most serious *Consideration*, and to endeavour to return as full, and as clear an *Answer*, as I possibly can, to it: Which I hope, upon a strict *Examination*, may sufficiently and satisfactorily prove, that this *Objection*, in its fullest force, can never totally destroy the *Expectations*, that the *Method* by me proposed, if *vigorously prosecuted*, may be of some considerable *Advantage* to the *Ingenuous* in their *Enquiries*, into the *Causes of Diseases*, and into the *Operations of Remedies*. But to betake my self to the

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Ans. I cannot deny but that it may, and will, be very difficult, at least at the first, in many if not most *Acute Distempers* (which for the most part keep the same *Periods*, and determine one way, or other, with, or without Medicines (as the *Sagacious Objector* has most judiciously observed, and perhaps in some others) rightly to distinguish between the *Effects* of *Nature*, and those of *Medicines*; and yet, notwithstanding all this, I cannot believe it altogether impossible, with due *Care*, and *Attention* of *Mind*, in time to attain to a tolerably *Certain Niceness* therein. The great Difficulty, if I am not mistaken, of solving the foregoing *Objection*, lies in this, That where *Nature* her self do's actually perform the *Cures* of *Diseases*, without any *Assistance* from *Art*, we are hitherto through our want of due *Attention*, for the most part, ignorant what real *Alterations* She works in the *Blood*, not only as to *Consistence*, and *Colour*, but also as to the *Taste*, *Smell*, &c. of it. And indeed where we have opportunities afforded us, of *Examining* the *Blood* in *Diseases extracted*, we generally content our selves with a very Slight and superficial *View* of its *Consistence*, as to *Thickness*, or *Thinness*, and the abundance or deficiency of *Serum* in it, and of its *Colour* and *Sickness*, but no ways trouble our selves

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with the *Examination* of its *Taste*, *Smell*, *Roapiness*, *Oilyness*, and such like, which are as necessary, nay, perhaps more necessary, *Enquiries*, than the other. And by reason of this our *Perfunctoriness* we are wholly in the Dark, whether *Nature* do's not work those *Cures*, by rendering the Blood more *Bitterish*, *Saltish*, *Sweetish*, *Sourish*, or the like, or by rendering it more or less *Roapy*, *Oily*, or such other *Alteration*, or *Alterations*, as I am very much inclined to conjecture; and that without a due and careful *Regard* to these latter, as well as to the former, in our *Enquiries*, the *Improvement of Physick* will move on but very slowly; and it may be for this very reason, that oftentimes the former, and more taken notice of, are nothing else but the *Products* of these latter *unobserved Alterations* in the *Blood*. And here again I cannot forbear bewailing afresh, that in the *Compass* of so many *Ages*, as *Medicine* has been cultivated in the *World*, we have as yet no tolerable *Standards* settled of *Good* and *Healthy Bloods*, whereby our *Searches* into the *Natures* and *Causes* of *Diseases* would be wonderfully *Abbreviated*, and we led as it were by the *Hand* to the most *genuine*, or if you like the term better, the most *Specifick* and *Expeditious Cures* of them. But since this is hither-

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to denied us, which would save even me in this Answer abundance of Pains; in order to the more fully satisfying this *Objection*, by shewing how we may render this *Method* of mine useful, to the truly distinguishing between the *Effects* of *Nature*, and thole of *Medicines*, after freely and ingenuously acknowledging, that *Art* is but *Nature's Handmaid* to assist her in her *Operations*; I shall premise three *Postulates*, or *Suppositions*, call them which you please, which are, if I mistake not, so *reasonable* in themselves, that I hope few, or none, will refuse to grant them to me; *viz.*

First, That those *Medicines*, which either upon every *single Exhibition*, or upon the *persisting* in the use of them, do manifestly *Alleviate* in any *Distemper*, the whole *Concourse* of *Symptomes*, and are so far from interrupting *Nature*, in her *Processes*, that they apparently assist her, in passing her *Periods*, and always help to bring the said *Distemper*, to an happy *Issue* (frequently to a more speedy one, than when the said *Distemper* is left to take its own *Course*, without any *foreign Assistance* of *Medicines*, or than it meets with after the *Exhibition* of *Medicines* of a *different Nature* to those under this Head already supposed) should be esteemed *Proper* and *Beneficial*.

2ly, That those *Medicines*, which either upon each *single Exhibition*, or upon the persisting in the continued Use of them, do constantly render the said *Distemper* more violent, or sensibly *Exasperate* the *Symptomes*, and especially if they produce *formidable New ones*, should be deemed *Improper* and *Prejudicial*.

3ly, That those *Medicines*, which so used, do not constantly occasion any sensible *Alterations*, either for the better or the worse, nor any ways visibly interrupt the *Course of Nature*, in Her Managements of *Distempers*, especially after persisting in them, for some considerable time, should be allowed to be of an *Innocent*, or at least of not a *very Mischievous Kind*.

The like may, with a Parity of Reason, be truly *Asserted* of *different Methods* and ways of *Management* of *Diseases*.

In the two former of these premised *Cases*, I can scarce imagine, how it should be thought difficult, if due *Attention* be used in the Prosecution of the Method by me propos'd, to distinguish between the *Effects* of *Nature*, and the *Operations* of *Remedies*. For if continually in any one *Distemper*, upon the prescribing any one *Medicine*, or sort of *Medicines*, of the same *Efficacy*, I find all or most of the *troublesome Symptomes*, with
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which my *Patient* was before Afflicted, Alleviated, and the *Distemper* in general better'd; my next Care should be, with all the Accuracy possible, to examine what real Alterations have been produc'd, in the Blood, either as to Consistence, Colour, Taste, Smell, &c. from what it was at the first Bleeding, or any other Bleeding preceding this my Examination: and as, I think, I have reason to ascribe the Benefit wrought to the Force and Efficacy of the Medicines in the Interval Exhibited, so if upon Extracting of Blood, I find it alter'd considerably in any, or all the aforementioned Circumstances, from what it was at the first or any other Bleeding, when I found my *Patient* in the worst State of Health; I hope none will judge me Unreasonable, in apprehending, that those very Alterations produc'd in the said Blood, are as truly the Effects of the Medicines prescrib'd, as the Abatement of the *Distemper* it self: and indeed that they are inseparable Concomitants one of the other; or rather that the Abatement of the *Distemper* was really, and truly the Subsequent of those very Alterations produced in the Blood, by the Medicines Exhibited, and such as Nature her self, in all Humane Probability, would unassisted have wrought, though perhaps more slowly, without this Additional Assistance.

stance. And indeed, if upon *Collating* Various *Exact Observations* in the very same *Cases*, we shall always find the very same *Phænomena*, both as to the *Melioration* of the *Distemper*, and the *Alterations* produced in the *Blood*, the *Argument* will prove the stronger, and the *Inferences* deduced therefrom, be almost *Undeniable*.

On the other side, if in the same *Distemper*, upon the prescribing another *Medicine*, or sort of *Medicines*, I should always, within few hours after my *Prescribing*, and my *Patients* taking it, or them, find all or most of his *Symptomes* *exasperated*, and perhaps some New one of as bad or worse *Character*, superinduc'd, and by consequence, the whole *Distemper* heightened, as I think, it would be needless to seek for any other *Cause*, to ascribe the *Exacerbation* of the said *Distemper* to, than the indiscretely prescribing that *Medicine*, or those *Medicines*; especially if before that, the *Distemper* appeared of a *favourable Kind*. In such a Case as this, my next business would, and should, be with all the *Niceness*, and *Accuracy* possible, to *Examine* the *Blood*, as to its *Consistence*, *Colour*, *Taste*, *Smell*, &c. and to *Note* what *Alterations*, I therein found, as to these, and the like *Particulars*; which *Alterations*, no doubt were the

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the true *Causes* of the *Distempers* so apparently getting ground, at that rate; and therefore I hope, that none would blame me for imagining, that whatsoever had produced these *Alterations* in the *Blood* of my *Patient*, had at the same time, by those very *Alterations*, produced that *Alteration* in the *Distemper* for the worse, which at the first appeared *favourable*, but now *otherwise*. And in this Case likewise, if upon *Collating* various *Observations*, of the like kind, *Exactly made*, I should always meet with the same *Phænomena*, I should be inclined to believe my said *Conjecture* so certain, as scarce to admit of the least doubt. And to confess the truth, I am apt to be of the *Opinion*, that the Prosecution of this *Method* strictly, would at least, at the first entering upon it, more plainly discover to us the *Errors* which we made, or were liable to make, in *Practice*, than directly discover to us the *true* and *proper ways* of *Proceedings* in the *Management* of *Diseases*; I say, at the first only, as not doubting but, that after we were become *Dextrous* in it, it would be serviceable to us, even in this other, and more *useful part* of *Physick*: But supposing the utmost it could do, should only be to *discover* to us, and *Caution* us from, *Errors* in our *Treating* the *Diseases* of our *Patients*; I cannot but think that it deserves, by no means to be absolutely *sighted*.

If what I have already said, be not granted me, I can scarce imagine, of what Use and Advantage, that *Indication* can be, which is taken à *Juvantibus & Ludentibus*; and yet this is an *Indication* which is deservedly preferr'd by most, if not all, Prudent Physicians, before even the most Celebrated Hypothesis whatsoever; without having this constantly in our View, it would be next to impossible to Rectifie any Mistakes in Practice, especially if a Practiser be so unfortunate, as to be bigotted to any Hypothesis that carries with it any shew of Probability; in which Case, Multitudes of Misfortunes among his Patients, shall not be powerful enough to rouse him out of his Lethargy, or cause him so much as to open his Eyes, and to look about him, to see, if he cannot find out a better way of Proceeding: But notwithstanding all these Unhappy and unobserved Warnings, to change his Courses, he shall still plod on in his old beaten paths, and satisfy himself with attributing all his Miscarriages, to Malignity, or to any other Cause, rather than the true one, viz. The want of due Management.

For the more full proof of what I have here asserted, I crave the Reader's permission to relate a Story, which I know to be absolutely true.

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In the Spring of the Year 1680, I happened to be present at an accidental Meeting of the late *Deservedly Famous* Dr. Sydenham, and another *Physician*, now also Deceased. After the usual Salutations Dr. Sydenham asked the other Physician, what sort of *Fevers* he had observed in the Town the preceding Winter? To which the Answer was, a very *Malignant* one; so *Malignant*, that scarce five out of eight, of them who were seized with it, recovered. Dr. Sydenham further demanding at what time they usually dyed; the other replied about the *fourteenth* day. Dr. Sydenham still interrogating him, How he used to manage them, was briskly answered with *Cordials* and *Sudorificks*, as *Malignant Fevers* ought to be *managed*. I will not say positively, that I have given the very words of this *Short Colloquy*, but I am certain I have not deviated a Tittle from the Sence of it, and must assure the *Reader*, that I was not a little surprized at it; and the more, because upon an After-Recollection, I was fully satisfied, that among upwards of Thirty of Dr. Sydenham's Patients in *Fevers*, that Winter, I could give account of but two which had *Miscarried* (and neither the one nor the other of them would observe his *Directions*). Besides, at what time soever, he was called in, he never kept

kept any of them in hand above four days. But I must confess, he did not treat them, as *Malignant Fevers* are usually treated, and as the other Physician *briskly*, as I have already informed you, asserted they ought to be *Managed*. I report not this upon a bear hear-say, but upon my own certain knowledge, having then the *Honour* of *Visiting* Dr. Sydenham's *Patients*, together with him, in order to the better *qualifying* my self for *Practice*. If any can be so sanguine, as to imagine, that, in all this number of *Patients*, Dr. Sydenham had the good fortune to meet with no *Fevers* which were *mali moris*, when others complained they were every where so rife; all that I shall say in answer to him, is; that for my own part I am fully satisfied, of many of them, that they were so *ill-conditioned*, that had they been managed according to the *Method*, which the other Physician thought *most proper*, their Event, instead of *happy*, would have proved *Fatal*. I beg the Reader's Pardon for this *Digression*, and do assure him, that I would not so long have trespassed upon his Patience, by insisting so largely upon it, had I not thought my self *indispensibly obliged*, by this *Specimen*, to endeavour (though perhaps not in a very proper place) to evince the World, how *effectually* the being bigotted to any

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Hypothesis, or Notion, though never so specious, may lead Men into pernicious Errors in Practice.

But to return to the *Subject* I was upon, before I entered upon this not unprofitable *Digression*, and to make some Application of what has been said, to the Case of a *Pleurisie*, which is one of those, which the *Learned* and *Sagacious Objector* is pleased in particular to insist on, (though, by the way, I cannot but think that this Distemper ought rather to be ranged under the *Classis* of *Diseases* of the *Solidis*, or at least of those of a *mixt Nature*, than those of the *Fluids*, of which only I am speaking in this *Essay*) but before I proceed actually to make my *Application* hereto, I must beg his leave to premise one Remark or two: And first in this very Case of a *Pleurisie*, as by him stated, though there be no *actual Medicine* supposed to be exhibited, yet there is made use of what may justly be look'd upon as *instar Medicamenti*, a Remedy, though not a *Medicine*, that is, *Bleeding*; before the *Blood* will either by its *Circulation* or its proper *internal Powers*, rectify it self. *Another Observation*, which I shall make, is; That a *Regularly* and *salutary Pleurisie* is always attended with a *plentiful natural Expectoration*, which must be allowed to supply the place of a *Medicine* designed to procure

procure that *necessary Discharge* of Morbick Matter. Moreover in other *Acute Distempers*, which they themselves terminate kindly, some critical *Evacuation*, or other, perhaps a *Diarrhœa*, *Hæmorrhage*, or most commonly a *Diaphoresis*, or more gentle *Diapnoë*, do's always preceed the *Rectification* of the *Blood*: Which *Natural Evacuations*, though we do not yet perfectly understand what *Methods Nature* takes for the producing of them, do yet very much resemble those procured by *Art*, and so far resemble the *Operations* of *Medicines* internally Exhibited.

These things premised, Suppose in a *Pleurisie*, upon the constant giving one *Medicine*, or one sort of *Medicines*, I find the *Fever* abated, the *Respiration* more free, the *Expectoration* more *Easie*, *Plentiful*, and more *Digested*, the *Pain* in the *Thorax* alleviated, the *Pulse* more *Regular*, &c. and the *Blood* likewise, upon every subsequent *Bleeding*, not only less and less *Sizy*, but otherways altered in the *Consistence*, *Colour*, *Taste*, *Smell*, &c. from what it really was at the first *Extraction*: And on the other side, suppose upon the continued *Exhibition*, of another *Medicine*, or another sort of *Medicines*, in the like *Case*, I find the *Reverse* of all these, together with the *Addition* of a *Diarrhœa*, or *Ischuria*, or *Delirium*,

viam, or of all these together, and of several other as threatening *Symptomes*: If upon every subsequent *Emission* of Blood, I not only find the Blood more and more *Sizy*, but also otherways changed, in the *Consistence*, *Colour*, *Taste*, *Smell*, &c. from what it was at the first *Extractions*, in the former Case. Add to this, if I find upon *examining* the same Bloods, by the *Taste*, or *Smell*, that the amending Blood sensibly differs from the Blood, where the Patient apparently grows worse, either in the one, or the other, or both; and if withal the one of the Bloods, by feeling, discovers a greater *Oylinefs*, *Macilaginousness*, or the like. Things thus nicely scrutiny'd by all the *Senses*, which we can call into our *Assistance*, and which jointly are like to give us more certain *Information*, than any one of them singly can pretend to; I say, May I not, after so strict a *Scrutiny*, safely enough attribute the *Amendment*, in the former *Pleuritick* Case, to the *Medicine*, or *Medicines* there persisted in; and the manifestly growing worse in the latter Case, to those therein adhered to? And can I justly incur the Censure of being Indiscreet, and of espousing groundless *Conjectures*, should I take up an *Apprehension*, that the growing Better and Worse, in these two Cases proceeded *passibus aequis*, with those different *Alterations*,
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observed to be produced in the *Blood* by those *Different Medicines*? Especially if upon the most *Careful* and *Accurate Collating* of *Various Observations*, faithfully made, of *Cases* as nearly alike *Circumstantiated*, as may be, we constantly find the same, or very near the same *Effects* produced, of *Alterations* in the *Blood*, and *Melioration* or *Pejoration* in the *Distempers*?

Allowing this to be the true State of the *Case*, (the truth of which, Experience it self, may in time put past dispute) I must own, I cannot but think it next to impossible, That I, or any one else, should not be able, almost in any *Distemper*, proceeding barely from *Vitiated Blood*, by a *nice*, and *Accurate Examining* the *Blood*, according to the *Method* in this Essay laid down, upon every *subsequent Bleeding*, to *Remark* and *Assign* the several *Alterations*, (or at least the most *considerable* of them) produced in the said *Blood*, in the interval between the first *Venasection*, and those after *Observations*, whether the said *Alterations* have been accompanied with an *Alleviation*, or *Exasperation* of the said *Distemper*. For certainly my *Eyes* will not fail to discover, whether the *Blood* be more or less *Sizy*, *thicker*, or *thinner*, &c. And my *Taste* may (especially after it has for some time been exercised to such *Enquiries*) sufficiently inform me,

me, whether it be *Bitter, Sweeter, Sharper, Salter*, or more *Insipid*, &c. The *Sense of Feeling* may assist me, in finding whether it be more or less *Oily, Roapy*, &c. And the *Smell*, whether it have any different *Odour*, from what it had at first: All which *Circumstances*, being duly *Collated* together, may by degrees let us into a *Certain* (at least a more *Certain* than any we yet have) *Insight*, into those most minute things, in which, *Collected* together, the *Natures* of the several *Distempers*, proceeding from *Vitiated Bloods*, do really *Consist*; or in other words, into the compleat *Knowledge* of the several *Dyscrasies* of the *Blood*, which produce those *Distempers*, and by the *Corrections*, of which, whether by *Specifick Alterations*, or by proper *Evacuations*, those *Distempers* are, or may be, actually remov'd; and may, by a *Natural* and *unforced Consequence*, fully satisfy us, by what *Remedies*, and by what *Operations* of those *Remedies*, those most desirable *Ends* are to be attain'd on the one hand; and on the other, by what those *Diseases* are most likely to be *Exasperated*.

But things indeed standing according the *third*, and *last Postulate*, our *Enquiries* must of *Necessity*, proceed more slowly at least, till by our having rendered our selves so extreme *Expert* and *Nice*, in *Determining*

termining in *Observations*, specified according to the two former *Postulates*, where *Alterations* are supposed to be in fact more *Obvious*, as to take notice of the least *Tendency* towards any kind of *Alteration*, in the *Blood*, by the *Exhibition* of any *Medicine*; and of any *Benefit*, or *Prejudice*, therefrom received by the *Patient*: At which time we shall be better *Capacitated*, with *Success* and *Satisfaction*, to make our *Enquiries* into *Cases Circumstantiated*, even according to the *Supposition* made in this last *Postulate*. Which *Enquiries* however, even before we shall arrive at the *Degree* of *Knowledge*, ought not wholly and absolutely to be *Neglected*. Because *Insensible Alterations*, for the *Better*, deserve to have some *Regard* taken of them: and *insensible Alterations*, for the *Worse*, in process of time may prove of *Pernicious Consequence*: especially in *Chronick Cases*, whose *Progresses* are generally very slow, and scarcely *Discoverable*, without abundance of *Patience*, as well as *Attention of Mind*. All the help that I can suggest in such nice Cases as these, is; That the several *Examinations* of the *Blood* ought to be made, at greater distance of time, which may enable us to make more *satisfactory Discoveries*, than if we allow less time for the *Medicines* to exert their *Operations* in. And this

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this I hope may be allow'd of, without any considerable *Damage*, to our *Patients*, especially in *Chronick Diseases*.

It may perhaps be urged, that this *Answer* to the foregoing *Objection*, abounds with more words than are really Necessary, nay, that in it I seem to have been guilty, more than once, of *Notorious Tautologies*. I readily own the whole Charge: In excuse of which, all, that I shall say is, That that, which compelled me to be so *prolix*, and *verbose*, and to be guilty of so many seeming Repetitions was, first, an *earnest desire* to prove, That it may not be wholly impossible, by the *Method* here suggested, in time so sufficiently to distinguish between the *Effects* of *Nature*, and the *genuine Operation* of *Medicines*, as to make it useful to us, in proving the *Praxis Medica*, at least in the *Diseases*, here in general hinted at: And, secondly, a *Generous* (if I may so term it) *Design*, as intelligibly as I could, to show by what ways of Proceeding, according to my present Apprehension, this might most easily and successfully be *Effected*. And I could not but think it the more necessary to attempt both these things, upon account of the foregoing *Objection* it self, which as I have already mentioned I received from a *Learned, Judicious and Eminent London Physician*.

I being thereby fully satisfied, that notwithstanding all my former *Care*, in setting down the *Method*, and the Steps to be made use of, in order to attain the *Ends* aim'd at by it, I had been so unfortunate as not to make my self perfectly understood.

There is one Objection more, which has occurred to my Thoughts, since the Writing my *Answer* to the foregoing, and this will be levelled not against the *Usefulness* of the *Method* it self, towards the *Improvement* of the *Practice* of *Physick*, but against the *time* that must necessarily be taken up in the putting it into act, *viz.*

VIII. Suppose your *Method* Capable of giving us, in our *Enquiries* all the *Satisfaction*, that the most *Curious*, and *Inquisitive*, can wish, yet it must, even by your own acknowledgment be so *tedious*, and take up so much *time* in the *Execution* of it, that that alone is sufficient to prove the *Impracticability* of it, and thereby discourage any from attempting to make any *considerable Discoveries* by it.

Ans. I readily acknowledge, That it will require some time, at least at first, *accurately* to *observe*, and to *commit* to *Writing*, all the several *Alterations* in the *States* of the *Distempers*, and in the *Blood* succeeding the several *Exhibitions* of each *distinct Medicine*; but then I as firmly believe,

lieve, That the *Satisfaction*, which they shall thence receive, will more than *Compensate* for the trouble, to all those who shall make it their Real Design by searching things to the very bottom, *effectually* to promote the *Art of Medicine*, and thereby to do the utmost good possible, and at the least *Expences* to their present *Patients*, and by rendering the *Praxis* more *certain*, *safe*, and *Expeditious* to become eminent *Benefactors*, to all succeeding Generations. Besides, this *Fatigue* will, by *Custom*, become at length much more *easy* to us, *use* in this, as well as in all other *Undertakings*, rendering us much more *Ready*. The *Difficulties* of all *attempts* being most visible at the first *Onsets*, and those things which at the first seemed altogether *insuperable*, by degrees becoming *Facil*, *Familiar* and *Delightful*. Nor will it be very difficult to abridge much of this *Toyl*, by proper *Contrivances*, one of which I shall in due place endeavour to hint at. And what may be some farther encouragement patiently, at first, to undergo this trouble is, the just hope we may entertain, that by an *unwearied*, *diligent persisting* in this *Method*, we may at length make it *needless*, by so fully informing our selves of the *True Natures* and *Causes*, of all these *Diseases*, and of the *Genuine Operations* of *Medicines*, in

the *Curing* of them, as may Capacitate us afterwards to undertake the Management of any of them, and that successfully without the Assistance of all this *Irksome Labour*. I might further add, that all *useful Designs* do necessarily require long *time*, *unwearied Pains* and *indefatigable Industry*, to bring them to any thing of *Perfection*, and therefore it ought, neither to be wondered at, nor rigidly to be *objected*, that this particular one, which I am sure is sincerely intended for the *Common Good* of *Mankind*, in so desirable a business as *Health*, should at the first be attended with something of *Trouble*, and require something of *Diligence* and *Niceness*. But what I have already urged being, if I mistake not, sufficient to satisfy all those, who are not, through the *Sluggishness* and *Laziness* of their *Natural Tempers*, unwilling to take *pains*, or those, the *Transcendency* of whose *Attainments* do's actually render them above it, I shall forbear any further insisting upon it.

And now I have done with all those Objections, which I have as yet receiv'd from my *Brethren* of the *Faculty*, or which I can have any just reason to expect from them, or at least I flatter my self, that I have *satisfactorily* answered those, which have the greatest *Weight* and *Force* in them,

them. And therefore here I might stop my Hand, if all our *Patients* were *Mem-bres des Hospitales des Invalides*, and thereby obliged to submit to our *Managements*, without any manner of *Disputes*. Among such as these, we might be at full liberty to use this *Method*, or any other without Controul: But those that consult us being *Freeborn Englishmen*, and thereby having a Right of being treated as such, as being wholly at their own *Disposals*, and such as do or shall satisfy us for all our *Advice*, and Care, and such as will, if we do not please them, at their pleasure discard us, and call in others, that may be more complying to their *Humours*, it is but reasonable that some *Regard* should be had, to what they on their parts may *Object*, and that I should endeavour to satisfy them, that they can have no just reason, all things considered, *pertinaciously* to oppose the having this *Method* put into Practice, even upon themselves.

However, I beg these Gentlemens Pardons, for not here, as in the former *Case*, setting down all the *Objections* which they may be apt to raise singly and separately, by themselves, because I rather chuse to draw them up all in one body, that so they may see at one single *View*, the utmost, that they have to urge, against the freely permitting this *Method* to be exercised,

even upon themselves. And here I shall endeavour to represent what they have to say, with all the *Force* and *Strength*, they can desire; for I acknowledge, that for the *Reason* above hinted, if they should be slighted, they, for that neglect, might prove *Invincible Antagonists*, and though those who are to put this *Method* into *Practice*, may judge it fit to be Encouraged, yet if those upon whom the *Experiments* are to be made, will not yield a *Compliance*, it will be impossible, while they are *Free*, and at their *own Disposals*, to make them do it against their *Wills*.

Objection IX. If we receive *Benefit* from your *Prescriptions*, and grow every day better and better, What need is there, that we should lose any *Blood*; the *Effect* speaks for it self: What care we for knowing *how*, or by *what Alterations* in our *Blood*, or *Humours*, this *Good* is wrought, we are sensible we gain ground, and the *Success* manifestly *Evidences*, that you have taken right *Measures*, we are not so unreasonable as to expect to be restored to our *Healths* in an *Instant*, though we earnestly desire it, with the utmost *Expedition*, and therefore go on *vigorously* to our further *Advantages*, without *Hesitation*, in the *Courses* with which you have begun. As for the *Modus Operan-*

di, we are content to leave it for a *Subject* for you *Physicians* to Exercise your Wits upon, and perpetually to *Jangle* and *Dispute* about: but why should we, only to end the *Controversie*, give way unnecessarily to the losing, though but a little, of Blood, which may be, as even you your selves own, of some *Prejudice* to us? And if we actually grow worse under your *present Managements*, that, without any more adoe, may sufficiently *Caution* you, if you are honest Men, as we take you to be, not further to *persist* in *prescribing* the same things, but to proceed to different *Methods* and *Medicines*. And in either Case, What reason is there, that we should be at the *Expence* of Blood, and Money too, barely to satisfy your *Curiosities*? Is it not enough for us to be at the Charge of *necessary Physick*, but must we lose our Blood frequently into the bargain, though no other damage should *Accrue* to us thereby, purely to let you see how your *Medicines Operate*, and pay for losing it too?

I hope none can justly charge me with any Partiality, to my self, or my own Sentiments, in stating this *Objection*. I confess, it is somewhat long, but I had rather have it so, than to give any sort of *Patients* reason to complain, that I

had not done them *Justice*, by omitting what they had to urge against *gratifying my desires*. And though, for the Convenience, of letting all sorts of *Persons* see at one view, what could with any shew of *Reason* be urged by any of them, against the permitting *my Method* to be put into *Practice* upon them, I have drawn into one, what I might fairly have formed into three *Objections*, yet that none may think themselves unanswerable, I shall beg leave in my *Reply*, to Address my self to three distinct sorts of *Persons*, viz. To those who actually receive *Benefit* by our *Prescriptions*: To those who are so *unhappy* as to receive none, nay, perhaps the *Contrary*; and, lastly, To those who upon any pretence whatsoever, either just or unjust, are likely to *scruple* the, as they may apprehend it, unnecessary *Charge*, which at last I fear will be found the most in *Number*, of the meaner sort I mean.

Answer, I. As to those who find *Benefit* by the *Prescriptions*, they are under, though it must be acknowledged that, upon their own *Accounts*, they may have little need to give us the Satisfaction, of seeing any of their *Blood*, so it cannot be denied, that they have but little reason to scruple, much less deny, us the said *Satisfaction*; not only because so small a loss of it, as I propose, can do them no real *Hurt*; but also because
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such a *View*, and *Examination*, of it, may be of *Benefit*, both to themselves, and others: To *themselves*, by *satisfying* us and them, that we have taken our *Aim* aright, and so encouraging us to proceed with more *Vigour*, and affording them the satisfactory pleasure, of being well again in some reasonable time: To others by rightly *informing* us, what those *Beneficial Alterations* *actually* are, which have been produc'd in the *Blood*, by our *Medicines*, between the first and any other subsequent *Bleedings*, or between any one *Bleeding*, and another upon the change of *Medicines*, and so plainly directing us, how for the future to proceed in *Cases*, of the same *Nature*, with the greater *Advantage* and *Certainty*. And doubtless it cannot but afford an unspeakable delight to any *Ingenuous* person himself, to apprehend that by permitting his own case to be exactly scann'd, he may be *instrumental* to the saving the Lives of hundreds, as well as his own.

Answer, II. As to those who are far from finding themselves bettered, by following the *Courses* hitherto by us directed, nay, who perhaps sensibly decline to the worser side, I cannot but think, that they have still less reason to oppose our *desires*, in this particular, if they really love their own *Healths*, and *Covet* to have their *Diseases*
Cured,

Cured, with the greatest *Expedition* and *Safety*: For though the *want* of expected and desired *Success* in any *Method*, or in the use of any *Medicines*, especially if *Symptoms* grow worse, and worse, be a sufficient *Warning* to any *Discreet* and *Honest Physician*, no longer to persist in either of them, to the *Hazard* of his *Patients Life*; yet of what use will this be, to direct him, what *Course* next to take. The right way may be but one, whereas the wrong may be numberless. For instance, suppose in a *Case* wherein *Evacuations* (and particularly though falsely *purgers*) may seem to me necessary, I should find that, upon frequent *Purgations*, my *Patient* not only grew weaker and weaker, but also all *Symptoms increased*; this would be sufficient, 'tis true, to deter me from *persisting* any longer in the *Use* of *Catharticks*. But could this any ways inform me, whether I must for the future *attempt the Cure*, by other kinds of *Evacuations*, or by *Strengtheners* or by *Adstringents*, or by *meer Alteratives*, or any other particular sort of *Medicine*? And, if by *Evacuations*, would this direct me whether to chose *reiterated Venesections*, *Leeches*, *Cupplings*, with *Scarifications*, *Diureticks*, or *Diaphoreticks*, or *Salivators*, or any other particular kind of *Evacuators*? Or must I try them
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all successively? Would not this prove, in all probability, a very *Expeditious* way of proceeding, and well worthy of a *Learned Physician*, and much to be desired by a *Patient*, lying under a *Grievous* and *dangerous Distemper*? Is it not therefore evident past any manner of Denial, that though the Patients not growing, in due time, better in the Course of *Purgers*, ought effectually to discourage us, from pressing still forward in that *Method*, yet it leaves me wholly in the Dark, what I should next proceed in.

But here perhaps it may be demanded, Whether the *Method* by me proposed, will even be Capable of giving us *directions*, in the *Case* fit to be relied on. How next to Steer? I *Answer*. That, at first perhaps, even in the use of this, we may be very much at a loss, till we have by *Diligence* and *Accuracy* in *observing* rendered our selves *Nice*, in distinguishing between the several *Dyscrasies* of the *Blood*. But after we shall have attained to an *Expertness* and *Dexterity* therein, our *Labour*, if I am not grossly mistaken, will be very *easy*, not to say *Pleasant*. And even till then, it seems to me next to *impossible*, that we should receive therefrom no manner of *Light*, as to the *Management* of *Diseases*. Besides our *Conjectures*, though no better directed than

in the infancy of the *Prosecution* of this *Method* can scarce be worse grounded, than the *Conjectures* of those who go blindfold to work.

Answer, III. As to those in the last place who shall *scruple*, to have these *safe*, these *necessary Experiments* made upon them, barely upon Account of the needfuls, as they think, though small Charge it may put them to, and moved thereto either by the *straitness* of their *Purses*, or *Narrowness* of their *Souls*, I might *Joco-seriously* ask them what will you herein do more, than in the other usual *Methods* of *Physicians*? Are you not in reality, at the *Expence* of all our *Experiments*, upon your *Bodies*, when we shift from one *Course*, or *Medicine*, to another, and that too sometimes quite contrary to what we proceeded in before? And this you contentedly, while you look upon us as *Honest* and *Conscientious Men*, and *able Practisers* (as I suppose all do those *Physicians*, with whom they trust their *Lives*) and while governed by these *Sentiments*, you are satisfied, that we aim at nothing in all our *Endeavours*, but your *Healths* and *Welfares*: though perhaps through the *Frailty* of *Humane Understanding* and the *Bias* of *Hypothesis* (where we for the most part have nothing but *Conjecture*, and not the *Evidences* of our *Senses* to direct us) we are too too often misled.

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But being sensible, that *Diseases* will but ill bear *jesting*, and that it is more than *Barbarous*, to insult over the *Miserable*, I shall rather choose, in answer, to assert a *Position*, which how *Paradoxical* so ever it may at first *View* appear, will I doubt not in the *Event* be found a Solid Truth, *viz.* That instead of *increasing* hereby the *Charge* of our *Patients*, we shall in reality rather lessen it. For, as I have already frequently hinted, by this means being *Capacitated*, with the utmost *Accuracy*, and *Niceness*, to search into, and find out the several *Specifick Vices* of the *Blood*, and at the same time *satisfactorily* to *inform* our selves, of the several *genuine Operations* of those *Remedies*, we shall have occasion to use, in *Correcting* the said *Vices*, we can scarce fail of *immediately discovering* the least *Error*, in our *Practice*, provided we be not *perfunctory* in our *Enquiries*. And if we see our way plain before us, it would be very strange should we chuse *Meanders*, and wander in *By-Paths*, as if we really thought the Old *English Proverb* literally true; *The farthest way about is the nearest way home*. Nay, I dare appeal to almost the most *Prejudiced Persons*, whether, as I have just hinted, those who shall be rightly instructed, by some such *Method* as I have here proposed, in the *Causes* and *Natures* of *Diseases*, and in the *True Virtues* of *Medicines*, will not be enabled,

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and therefore likely, to reduce any *Deviations*, of the *Blood*, from its due *Crisis*, with *Expedition*, and *Safety*, if it be possible to effect it, into its *healthy State*, and by consequence to attain the *End*, we aim at, *viz.* the *Cures* of those that consult us, with the *least Expence*. Whereas in the *Methods* now generally used, considering the *little Reliance* there is to be plac'd upon most of the *Florid Notions*, as yet Extant, of the *Causes* of *Diseases*, which seldom are more than the *Products*, of either begged *Principles*, or *Exuberant Fancies*; and considering likewise how little *Certain Knowledge* we have, of the *true Operations* of *Remedies*, internally *Exhibited*, upon the *Blood*, and other *Fluids*, we are too like Men bewildered in dark Nights, and in strange and unknown *Countries*, perfectly at a loss which way to take, if we can indeed grope out any. For I cannot forbear repeating it again, our *Received Notions* of *Diseases* are for the most part so very unsatisfactory, not to say *Precarious*, and our *Accounts* of the *Materia Medica* seem to be so much taken up upon Trust, from our *Ancestors*, as 'tis to be feared, theirs were from theirs, without any manner of *Examination*, whether *True* or *False*, and lastly our *Insight* into the *Genuine Operations* of *Medicines*, upon the *Blood*, so very *small* and *imperfect*, occasioned by

by our being contented with taking *improper ways*, for the *investigating* them, that but little of *Certainty* can be justly expected to result from a strict *adherence* to any of them, or to all of them conjoyned together, and therefore no great wonder, if our *Methods of Cures* prove frequently *more Tedious*, than we could wish, and more *Expensive* than the *Patients* care for, and sometimes can well bear, which makes the latter, often chuse to die, to save Charges, according to our *English Adage*.

But to conclude this tedious *Answer* to the foregoing *Objection*, I shall hint at an *Expedient*, for the *Satisfaction* of those whose real Poverty may justly plead for them, that it would be *Severe*, to put them upon the least *Expence*, imaginable, more than shall be absolutely *Necessary*, for the Recovery of their lost *Healths*, or for the *Conserving* it, when in a *tottering Condition*: and I shall the rather do this, because if we can get over this Rub in our way, it may reasonably be hoped, that this sort of *Persons* may offord us the most frequent opportunities, of putting this *Method* into Practice, and thereby be Assistant to us, and to the World in general, in the *Improvement* of the *Art of Physick*, by the rendring us more capable of doing Service, even to those who will not allow

low us the Liberty desired. The *Expedient*, I mean is this, That where the Patients are truly Poor, we should Extract the *Blood* our selves, and thereby prevent the Charge of a *Surgeon's* doing it: Or else if we think our selves above so mean an *Operation*, that we should Engage those that do it, to do it *Gratis*. But this I offer only in behalf of those, whose narrow *Circumstances* make it necessary, that we should be as *frugal* for them, as is possible, and yet not by that *Frugality*, hazard their Incurring any real *Inconvenience*.

As for those, the *Narrowness* only of whose Souls will not permit them to be at this Charge, if their *Penuriousness* prove *prejudicial* to their *Health*, by keeping us in the dark as to the *States* of their *Cases*, and as to the *Effects* of our *Prescriptions*, they may even thank themselves, and ought not much to wonder, if few Persons should afford them so much as Pity, the just Debt to, and almost so the Comfort of those in *Afflictions*, should they, by this their *stinginess*, protract the times of their *Cures*, and thereby, under the specious Pretence of avoiding a small and inconsiderable, tho' whatsoever they may think, necessary addition to their Bill of *Charges*, run themselves into much greater

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ter *Expences*, than otherwise they would have been at, thereby it may be Literally Verifying the Old Proverb ; *Peny Wise, and Pound Foolish*, and perhaps into the Bargain, Sacrifice their very Lives to their Sordid *Avarice*. But before these over thrifty *Gentlemen* proceed, to take peremptory Resolutions in this Particular, it would not be improper for them to consider, whether they use the like *Caution*, in the Management of all their other *Affairs* : Or to speak in plainer Terms, whether they have not, nay, do not often waste their Money to less, and perhaps to worse purposes, without any real *Advantages* to themselves ? If they cannot clear themselves from this *Imputation*, it will look more like Humor, not to say worse, to be over-close-fisted, in that which may be so *Beneficial* to themselves, and others. Would it not appear very uncouth, for a Man not to scruple *Expense* in those things, which can be of no *Profit* to him, nay which often are, or may be extremely *Detrimental*, and at the same time to grudge at the least *Peny Expended*, in a *Business*, which may tend to the rendering his future Life both Long, and Happy ? What Name must all Men think such a Man *Worthy* of ? The Application I leave to those, who are most concerned to make it, be-

ing so Obvious, as not to require much Assistance to do it.

Thus, I have endeavoured fairly to propose all the *Grand Objections*, which I either have *received*, or could my self after the most serious Consideration think of, as well those that I might Expect from *Patients*, as from *Physicians*, and as fairly, and fully to answer them: which latter undertaking, whether I have effectually performed, I must leave to the Ingenious Readers at their Leisure, and upon Mature Deliberation to Determine. Though after all, I may justly suspect, that an *High Veneration* for *Antiquity* in some, a *Violent Affection* for *Hypotheses* in others, and other *Insurmountable Prejudices* in many more, may render them absolutely Deaf, not only to all the Arguments I have hitherto insisted on, but also to all the most Powerful ones, which can be used by any other ingenious Persons, who should undertake the protection of this my *Method*, upon the Account of its being so *Novel* a *Notion*. However, it is to be hoped, that all Men will not prove of so Refractory a Temper, but that some may be found, who will be more favourable to it, and at least judge it but reasonable, that it should not be too hastily Condemned, before it has undergone a *Fair Tryal*. And if, upon a *sufficient* and
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Fair Tryal, it shall be found unworthy of any *Favour* or *Encouragement*, I shall be as ready, as they, or any else, to pass the *severest Sentence* upon it.

That therefore it may be, in some Measure, prepared for such a *Tryal*, and that we may be the better enabled to make a right *Estimate*, of the *Usefulness*, or *Un-usefulness*, of it, it will be requisite, that we should proceed in these our *Enquiries Regularly*, and with all due *Circumspection*: For if we should proceed *Irregularly*, or *Incautiously*, we may have more Reason to blame our selves, than the *Method* proposed, if it should no ways answer our *Expectations*. For the preventing of which Misfortune to it, as much as in me lies, I shall, in the last place, according to my promise, offer at some *Cautions* and *Rules*, to be observed by those, that may be desirous to make the *Experiments* required, with the greatest *Advantage*, not doubting, but their own *Ingenuity* will enable them to make larger and better *Additions* of their own, to those few *Hints*, which they will here receive from me, than the meanness of my Capacity will enable me to do.

I. In the first place I should advise all those, who shall think fit to give this *Me-*

thod any encouragement, to be as *Exact* and *Accurate* in the making their *Observations*, as shall be possible, and not by Performing them *hastily*, and *perfunctorily*, to run the Risk of Deceiving themselves, and leading others, should they publish their *Experiments*, into *Errors*. And to this end, let them not content themselves, even in the most obvious Cases, with the *Testimony* of one *single Sense*, where the *Concurring Evidences* of more, may be called in. In the *Examination* of the *Blood*, at the First, or any other subsequent, Bleeding, let them not trust barely to their *Eyes*, but let them make use of those other *Senses*, which God has blest them with. By this means, no doubt, they may find, that *Bloods*, which to the bare *View*, appear extremely alike, may yet differ in some other *Circumstances*, as *Taste*, *Smell*, &c. And on the contrary, what may appear *Different* to the *Sight*, as to *Colour* or *Thickness*, may agree in *Taste*, *Smell*, &c. And a full insight into these particulars may, it is to be hoped, in due time enable us to fix *Certain Canons*, both for the truly *distinguishing* the several *Dyscrasies* of the *Blood*, the one from the other, and for the *Effectual* and *Expeditious* *Correcting* and *Amending* them.

II. In

II. In the next place, in order to the settling these *Canons*, with the utmost *Certainty* possible, (that so they may prevent our falling into, at least, gross Errors) due care must be taken, not to lay any great stress, upon single *Observations*, nay, nor upon two or three, of any of the *Effects* of any *Medicine*, in any *Distemperature* of the *Blood*. The *Phænomena* of single *Experiments* may justly incite our *Curiosities*, diligently to prosecute further *Enquiries*. But no Man, I am satisfied, will deny, but that *Conclusions* drawn from Multitudes of *Experiments*, (the more the better) are more safely to be relied upon: And indeed if we proceed otherwise, and govern our *Sentiments*, by the Appearance of a single, or it may be two, or three, Instances, in any Case (whether it be in *Ascertaining* the true *Causes* of a *Disease*, or in *Assigning* the true *Modus Operandi* of any *Medicine*, or *Medicines*, in *Curing* it, or in *Both*) we may easily impose upon our too credulous Imaginations, and instead of *Correcting Errors* really *Multiply* them, *ad Infinitum*: How like may we be, after this Rate, frequently to *Attribute* that, to the *Efficacy* of our *Prescription*, which may be only due to *Nature* it self, or the *Product* of some Lucky or Unlucky *Accident*?

III. And here, in the third place, I cannot forbear to lay it down as a *Rule* never to be Deviated from, That nothing is to be allowed, as the *Genuine Effect* of any *Medicine*, which do's not constantly, and always *Succeed* the *Exhibition* of the said *Medicine*, in *Cases* alike Circumstantiated. I put this last *Restriction* as suspecting, as I have formerly hinted, That the same *Medicine* may *Operate differently* upon *different Dyscrasies*. But whether this suspicion be well grounded, I must leave to Time and *Experience*, either to make out, or Refute, though I am not ashamed to own my self inclined to be wholly on the *Affirmative side*, induced thereto by the Consideration of the different *Effects* of the *Peruvian Bark*, in *Fevers*; and of its *prevalency*, in sometimes *Curing Diseases*, to outward appearance, widely *Distant* from *Intermittents*; as I have already mentioned more than once.

IV. The Fourth Rule or Caution shall be this, to take care with the utmost *Accuracy*, truly to *distinguish* in our *Observations*, both what *Medicines* do act upon the *Blood*, and how; and what *Medicines* do affect the *Solids* and how; (if any such there be which act *singly* upon either of them)

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as also where any *Medicine* does act upon both of them *jointly*, between the *various Operations* of the same individual *Medicine* upon both. For Instance, we ought not only to take Notice, what *Remedies* do barely *Attenuate* the *Blood*, without any *Sensible Evacuation* succeeding, but also, which do withal *Provoke Sweat, Urine, the Menses &c.* For whatsoever some Persons may seem to believe, 'tis not *Attenuaters*, or *Inciders* alone that will produce any of these *Evacuations*, unless the *Cutis, Kidneys, and Vessels* of the *Uterus* and its *Appendages*, be duly disposed by *Nature*, or the *Assistance* of *Art*, to yield a free Passage to them. No, tho' these *Medicines* should be *Exhibited* in never so great *Doses*, and never so often repeated, as the incomparable *Baglivy* has, in his *Specimen de Fibrâ Motrice, &c.* sufficiently *insinuated*, and *Experience* it self will fully *Evince* to the *Curious Observer*. And upon this Account, I am apt to suspect, that in some Cases (*viz.* where the *Cutis* is very dry, and as it were parch'd) the *Eruption* of the *Small Pox*, is scarce ever to be expected, tho' the strongest *Alexipharmicks* be never so frequently prescribed, which by increasing the *Heat* of the *Blood* are but too likely to render the *Skin* more dry and parched, and thereby incapable of giving way

to the *Separation* and *discharge* of the *Variolose Matter*; unless the *Tension* of the said *Cutis* be, by *Fomentations* or some other proper *Topical Applications*, gently *Relax'd*: But this I speak purely *Conjecturally*, as never having had an opportunity to make an *Experiment* of it, since the *Thought* came into my head, and as such I leave it.

V. The *Fifth Rule* which I shall propose, and which is in Truth a Natural subsequent of the immediately Foregoing, is; That due *Observation* ought to be made, in all *Cases*, and carefully *Remarked* whether the *Medicines* Exhibited Work *Primarily*, or *Secondarily*, upon the *Solids*. By this I mean, that due Notice be taken, whether the *Alterations* wrought in the *Blood*, are the immediate *Effects*, of the *Remedies Exhibited*, upon the *Blood it self*, or whether those *Alterations* are occasion'd *Mediately*, by the said *Remedies acting* upon the *Solids*, suppose by *Relaxing*, *Contracting*, or *Irritating* them.

The Nice Consideration of this, if ever we design to come to any thing of *Certainty* in *Practice*, I take to be a thing of that *vast Importance*, as ought not upon any Pretence whatsoever, to be totally *Neglected*:

lected: for if it be, we may be Guilty of strange Blunders, in our Proceedings, by directing the *Methods* of our *Cures* amiss. And if we then fail of *Success*, whom or what may we thank for the *Disappointment*, of our *Hopes* and *Expectations*, but our selves, or rather our *Heedlessness* in taking False Measures?

One *Instance* may tend to prove the *Necessity*, there may be, of always having a due regard to the two last recited *Rules*. There are but few, I believe if any, who can make the least Doubt, but that a *Diarrhæa* may, and does oftentimes, *Originally and solely* proceed from sharp *Humours* discharged into the *Intestines*, and continually Irritating them to *Excretion*. Now tho' this may be one *Cause*, and sometimes the *Sole* one, yet it may not always be so, for that may at other times, and in other Persons, proceed, and perhaps *solely* too, from a violent *Contraction*, *Crispation*, *Accelerated Peristaltick Motion*, or what else you will please to call it, of the *Intestines* themselves, without any Previous, at least considerable *Indisposition* in the *Fluids*: Nay, sometimes it may proceed solely, from too great a *Laxity* in those *Excretory Vasa*, which suffers every thing to slip through, which is admitted into them. In the *former Case* it may be
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necessary, to attempt the *Discharge* of the *Peccant Humours* by *Catharticks*, either upwards or downwards, or both; nay sometimes perhaps, by a *Previous Venesection*, in order to abate, by lessening the *quantity*, and by consequence the *Force* of the *Irritant*, the *Irritation* it self; and even then it will not be amiss, to have some regard to the *Atonia* of the *Guts* themselves. But in the *other Case*, where the *Tone* of the *Bowels* is only in Fault, how improper would it be by *Purgers*, to increase the *Irritation*, and thereby, to augment the *Disorders* of the *Intestines*, which are acknowledg'd by this Supposition to be the true and only *Cause* of that *Symptom*, we design to *Mitigate* and *subdue*; for the *Satisfaction* of which *Indication*, *Anodynes*, and *Opiates*, seem to me, things being in this State, much more *Eligible*. And I am apt to believe, that even this latter Method may sometimes, be the almost only one fit to be us'd in the *Management* of a *Diarrhœa*, which at first ow'd its Rise to the *Acrimony* of *Humours*, viz. when by its long Continuance and its having carried off all the *Mucus* which lines, and defends, the *Internal Coates* of the *Intestines*, they are left so tender, as not to endure the *Transit* of *Humours*, how free soever from *Acrimony*. In such *Circumstances*

stances as these, I could not but think that *Physician* over officious, who because the said *Diarrhæa* was at the first occasioned by some *Peccancy* in the *Fluids*, should, when he might, rationally too, Conjecture that the *Vicious Saburra* was totally spent, under the vain pretence of carrying off by *Catharticks*, what was actually carried off before to his Hand, hazard the flinging his Patient into a *Dysentery*. And on the other side, I can easily be induced to acknowledge, that a *Diarrhæa*, which at the first proceeded solely from a *Crispation*, or *Accelerated Peristaltick Motion* of the *Guts*, may in time so far *Vitiate* the *Fluids*, that whosoever, in the *Cure* of it, should totally neglect the Consideration of them, would deserve to be reprimanded for his *Thoughtlessness*.

VI. It will be necessary to set down in Writing, with the greatest *Accuracy* and *Niceness* imaginable, (because it must be burthensome to, nay impossible for, the strongest *Memory* to retain perfectly, distinctly, and without any Confusion, the several particulars of a vast number of *Observations*) all the several *Similitudes*, and *Dissimilitudes* of the several *Bloods* thus observed, and all the *Various Alterations*, which each *Remedy Experimented* produced in each

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Dyscrasie of the *Blood*, in order, by *Collating* them together, to *Ascertain* the *true Virtues* of all *Medicines*, in all *Cases*. But to free this as much as may be from *Tediousness*, and to *Abbreviate* in some measure the Labour of it, I should think it Convenient, to have several *Large Sheets of Paper Ruled with Red or Black Lines*, into several *Columns*, and each *Column* to be reserved for a distinct *Head*. As for *Diseases*, *Days of Diseases*, *Symptomes*, *Medicines exhibited*, and in what *Dose*, *Visible Alterations in Symptomes*, *Alterations produced in the Blood*, as to *Consistence*, *Colour*, *Taste*, *Smell*, *Oyliness*, *Roapiness*, *Siziness*, *Quantity of Serum*, its *Colour*, *Taste*, *Smell*, &c. the distinct *Head* of each *Enquiry* to be set in great *Letters* at the *Top of each Column*. But not doubting, but that whoever, shall think fit to put this *Method* into *Practice*, will be more *Capable* of finding out means to *abbreviate* his *Trouble*, in setting down the *Observations*, than I can pretend to be to assist him, I shall leave every one to manage himself, as he shall judge most for his *Ease* and *Advantage*. And indeed provided the *Observations* be duly made, and thereby any real *Advantage* Accrue to the *Art of Physick*, which is the main of my present *Design*, I shall never trouble my self

self much, at what order it is done in, though it should not be so very *Methodical*, as might by some be wish'd.

Thus I have by *God's Assistance* gone through my Design. What remains is *Earnestly* to beg all those, who shall think fit to put the above proposed *Method* into *Practice* (if any such shall be found) *freely* and *faithfully* without the least Disguise to *impart to the World*, with the most *Convenient Speed*, both what they shall *discover*, either as to the *True Causes of Diseases*, or as to the *Genuine and Immediate Operations of Remedies* in the *Curing* of them, and also the several Steps they shall make use of, in order to attain those *Discoveries*; that so by the *United Assistance of Divers, Physick* both in *Theory* and *Practice* may be settled upon a *Solid Foundation*, which this *Method*, if my present Apprehensions be not notoriously false, do's fairly promise, at least as far as *Concerns the Diseases*, which proceed barely from *Vitiated Bloods*: *Medicine thus inquired into, and thus managed*, I am apt to flatter my self, will make a much *greater* and more *Visible Progress*, in the space of *Twenty Years*, than it has hitherto done in an hundred, prosecuted in any way as yet made use of. And indeed to speak my *Sentiments*
freely

freely (for which if *Erroneous* I heartily beg the *Pardon* of the *Learned*) till *Fancy* and *Conjecture* be driven from the *Government* of it, and till *Physicians* will trust more to the *direction* of their *Trusty Senses*, in this or some other more *Rational* way, I cannot believe that, That most *useful*, most *necessary*, and most *Noble* Art will ever attain to any farther considerable *Pitch* of *True* and *lasting* *Glory*.

FINIS.



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